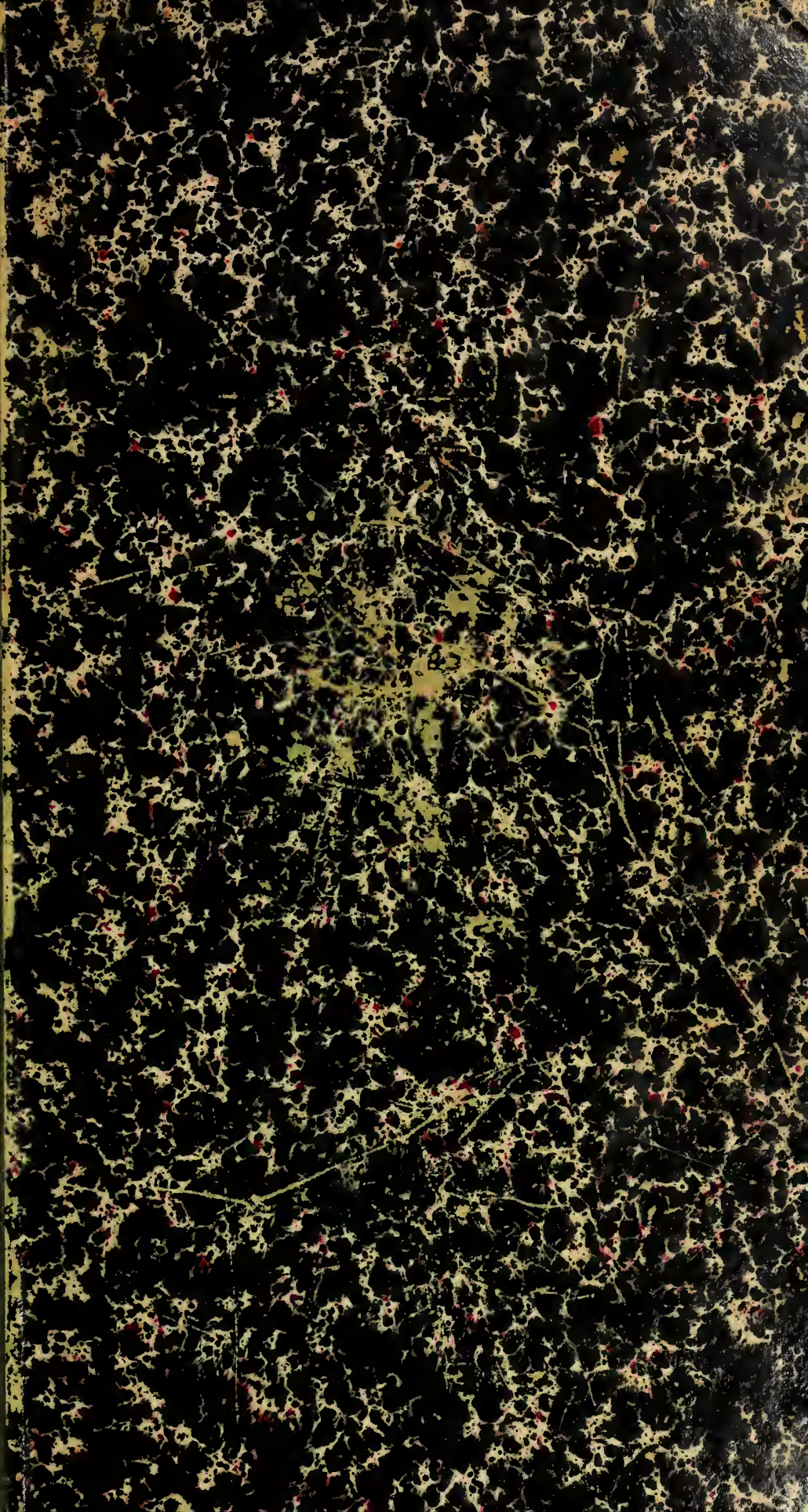


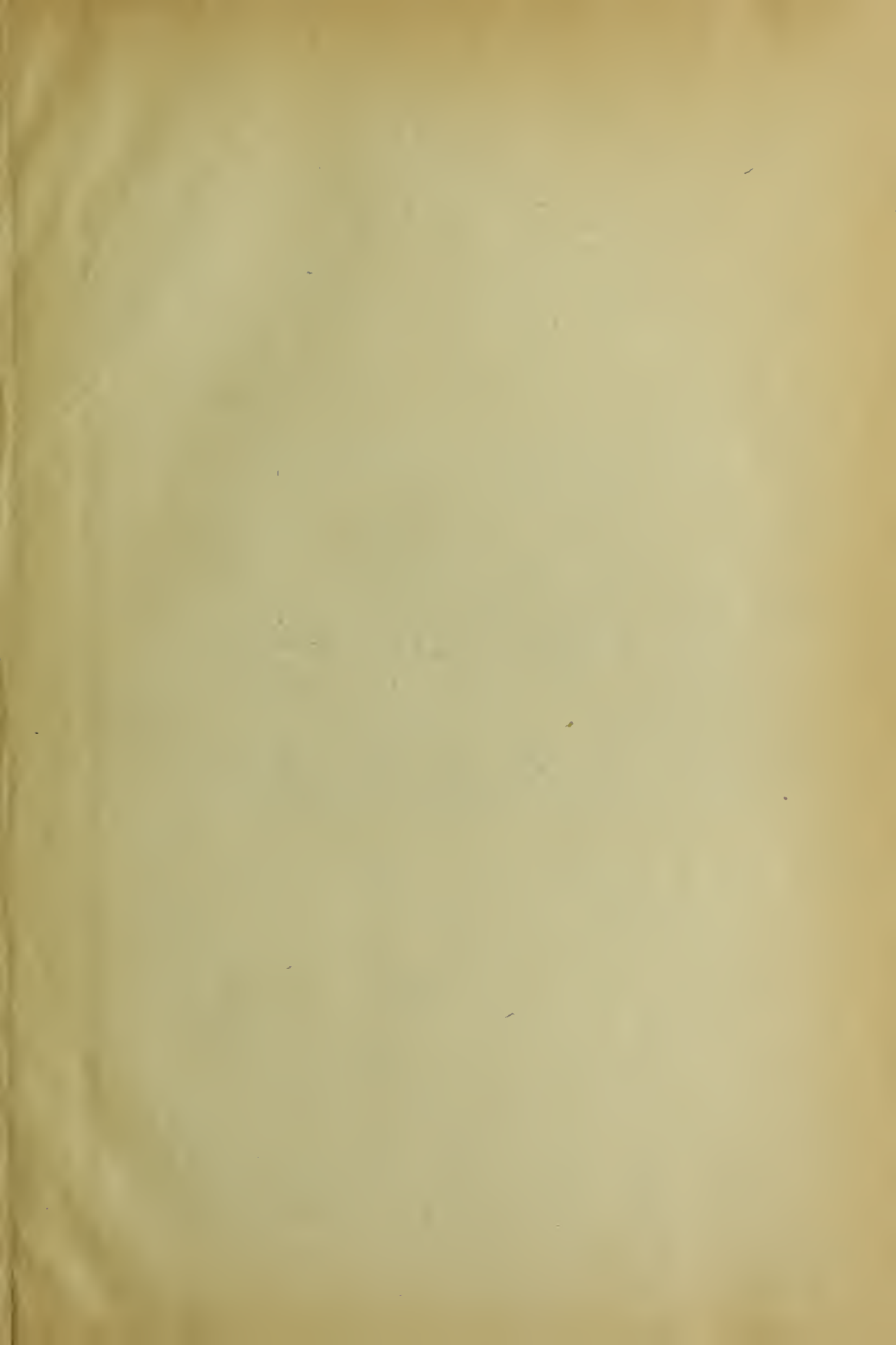
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THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Component Societies
Issued Monthly Under Direction of the Publication Committee

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901 Missouri Building, St. Louis, Mo.

PUBLICATION } T. W. COTTON, M.D., Chairman
COMMITTEE } C. B. FRANCISCO, M.D.
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ORIGINAL ARTICLES

OPERATIVE TREATMENT OF LAT- ERAL CURVATURE OF THE SPINE (SCOLIOSIS)*

FRANK D. DICKSON, M.D.

KANSAS CITY, MO.

Lateral curvature of the spine, or scoliosis, was one of the earliest described pathological conditions. To sketch its history, we must start with the beginnings of medicine and follow down through some twenty five hundred years the course of an affection for many centuries classed with other curvatures of the spine and considered, as they were considered, due to dislocation of the vertebrae. The name scoliosis was given to this condition by Hippocrates in 400 B. C. He advised for its treatment extension with pressure upon the prominence. He says: "It is also safe for a person to sit upon the hump while extension is being made, and raising himself, to let himself fall down again upon the patient." In 650 A. D., Paul, of Aegina, suggested bandaging with wooden strips in cases of curvature. Five hundred years later Albukasis announced: "No one could cure curvature of the spine to the side." Ambroise Paré in 1510 enunciated the principle that scoliosis was due to defective posture and suggested the use of a padded iron corset. In 1741 Andre again emphasized this aspect of the condition—this same André it was who coined the term "orthopedic." In the eighteenth century, gymnastics first were used in the treatment of scoliosis, but it was not until the middle of the nineteenth century that this form of treatment was really utilized. In 1878 Lewis A. Sayre, New York, published a book on spine disease and spinal curvature in which he advocated the treatment by self-suspension and plaster of Paris jackets. From this time on, scoliosis began to receive more serious consideration and as a result considerable stimulation of interest in devising an effective mode of treatment was aroused. It must be confessed, however, that in spite of the vast amount of

painstaking investigation and work done in the past fifty years, the statement of Albukasis, "No one can cure curvature of the spine to the side," is almost as true today as when uttered 800 years ago.

In seeking an explanation for this gloomy situation, it is necessary to have at least an elementary knowledge of what scoliosis really is. Let us then briefly consider the mechanics of its production.

Scoliosis is a lateral deviation or curvature of the spine to one side or the other from the mid-line of the body. Scoliotic curvatures may be divided generally into two classes; postural curvatures and structural curvatures. In the former, i.e., postural curvatures, we have a deviation of the line of the vertebrae to one side or the other in the form of a total curve—that is, a single curve. Such postural curvatures occur scores of times each day in the spines of all of us as we go through our daily tasks. If, however, an individual for any reason constantly assumes an attitude in which the spine is held in a position of total curvature, it becomes habitual and such an individual may be said to have a postural curve, or postural scoliosis. Such curvatures can all be cured, by correcting faulty posture, proper support and exercises, and may be dismissed from consideration in this discussion.

If, however, an individual maintains a position of postural curvature over a sufficiently long period of time, certain changes occur in the vertebrae individually and the spine as a whole. These changes are the result of unequal pressure exerted upon the bodies of the vertebrae. That unequal pressure is exerted on the bodies of the vertebrae in a scoliotic spine is evidenced when one looks at such a spine and remembers the laws of physics. We have in the spine a joined rod; if this is bent laterally there must of necessity be more pressure exerted on the concave side of the curvature thus formed than upon the convex side. The result of increased pressure on the concave side, as the vertebrae are malleable structures and capable of changing their shape when exposed to unequal pressure, is a narrowing of the bodies of the vertebrae on this side

*Read at the meeting of Jackson County Medical Society, November 23, 1926.

and proportionate widening on the convex side. In other words, the formation of wedge-shaped vertebrae. (Fig. 1) Such changes in the form of the vertebrae are usually permanent and when they occur the individual is said to have a structural scoliosis. It is such curvatures we are to consider.

Coincident with the change in the form of the



Fig. 1. Third lumbar vertebra shows beginning wedge formation due to unequal pressure.

bodies of the vertebrae, the unequal pressure brings about another and equally serious condition; that is, rotation of the vertebrae upon each other. This rotation reaction of the vertebrae is similar to that which occurs if you take eight or ten child's building blocks, stacked one on top of the other in a column and, holding them in your two hands, bring pressure on them in such a manner as to exert more force on one side of the column than on the other. When this is done the column bends and at the same time the individual blocks rotate on each other, this rotation being away from the side of greatest pressure and toward the side of least pressure. This is exactly what the vertebrae do when exposed to unequal pressure because of a curvature of the spine. They rotate on each other away from the side of greatest pressure, the concave side, and toward the side of least pressure, the convex side. (Fig. 2)

In their rotation, the bodies of the vertebrae in the thoracic region carry with them the ribs and in this way is produced the unsightly prominence on one side (the convex) and a hollow on the opposite side (the concave) which makes scoliosis so distressing a deformity. (Fig 3)

A structural scoliosis, then, is a compound deformity, a deviation of the spine as a whole laterally, and a rotation of the individual vertebrae on each other. The pathology, so far as the spine is concerned, which results from this deformity is:

1. The production of wedge-shaped vertebrae due to unequal pressure.
2. Rotation of the individual vertebrae upon each other with partial locking as a result.
3. Grave interference with the flexibility of the spine which amounts to an ankylosis in severe cases, the result of the two preceding.
4. Distortion of the trunk contour with deformity.

5. Given such a pathology, the requirements for adequate treatment become quite definite. Any method of treatment designed to correct a structural scoliosis completely must first unlock the rotated vertebrae; second, restore flexibility to the spine; third, straighten the spine; fourth, hold it in its corrected position in spite of its deformed vertebrae. It is the impossibility of fulfilling all these conditions in the treatment that makes structural scoliosis so difficult to overcome. Furthermore, we must face the fact that once the spine is fixed in a position of deformity the weight of the trunk, shoulder girdle and head constitutes a force which is constantly tending to increase the deformity so long as the individual is in the upright position and the spinal segments are capable of movement. It should be clearly stated also that these deforming forces do not cease to become effective when the individual has attained his or her full growth but go on through life.

What are the methods which have been used for correcting structural scoliosis? They may be summed up in a few words—exercises, corrective plaster jackets and braces; or a combination of these. That the results of treatment have been far from satisfactory either to the physician or the patient, is freely admitted by any one who has treated any considerable number of lateral curvatures. But the disappointment is not because we cannot secure some correction but because of the difficulty of holding the correction gained in a given case.

In 1914 a committee appointed by the American Orthopaedic Association to study the results of the accepted forms of treatment of scoliosis by use of casts, supports and exercises, made a report on its activities. I will not in-

clude this report here as it is long and technical. The gist of the report was, first, that by no corrective method studied could an overcorrection be secured in a severe case of scoliosis (this is essential to permanency of cure); second, that if correction was secured by plaster casts, exercises and braces, as soon as treatment stopped the condition relapsed. We know that patients grow weary of wearing braces year after year. Exercises can only be rigidly enforced for a comparatively short period each day, while the need of measures to correct the static influences causing relapse is in most instances constant when the patient is erect. How, then, are we to answer the problem of the scoliotic in such a way as to secure a maximum or correction, and hold this correction without compelling them to wear a brace and constantly exercise?

In 1914 Hibbs, realizing that the keynote of successful treatment lay in holding correction gained by whatever corrective method used, began fusing the vertebrae as the only certain means of achieving this result. The basic principle underlying this procedure may be stated in brief as follows:

1. The production and increase in deformity in structural scoliosis is due to a compound lateral bending and rotating movement of the vertebrae upon each other.

2. The difficulty in holding any correction secured lies in the tendency on the part of the individual vertebrae to return to their original position of deformity when the correcting force is removed.

A fusion of the involved vertebrae prevents this movement of the vertebrae upon each other and therefore should prevent an increase of deformity in the first place, and should maintain any degree of correction secured previous to operation in the second place. In 1923 Hibbs reported in detail 59 cases treated in this way with very gratifying results. His conclusions I quote:

"First, a study of these cases gives evidence that we have in fusion means of preventing the progress of deformity of scoliosis in cases in which it is due to muscle imbalance.

Second, the operation should be done before gross deformity has developed, it being easier to prevent than to correct deformity.

Third, after fusion, the upright position is maintained with greater ease and trunk movements exercised with less fatigue."

Impressed with the difficulty of maintaining correction by having case after case relapse, and after observing some of Hibbs' early cases, I became convinced that the fusion operation offered the only sure means of holding correction and I have used this method in all suitable cases for the past five years. Our routine is as follows:

When after careful examination it is determined that a patient has a structural scoliosis, the situation is explained to the patient or the parents, the seriousness of the condition both as to deformity and interference with general health and physical activity is stated as clearly as possible and the treatment outlined. This consists of:



Fig. 2. Shows marked rotation toward the convex side, the result of unequal pressure on the vertebral bodies.

1. Recumbency on a corrective frame for a maximum of correction. This period of recumbency may last from three months to a year. (Fig 4)

2. Corrective exercises are carefully taught and carried out twice daily.

3. When the corrective frame has been applied and the exercises mastered, the patient is sent home on the frame with instructions to be in the open air as much as possible and a daily schedule outlined.

4. The patient reports every two months for examination and such changes in the frame and exercises as may seem desirable.

5. When no further improvement in the deformity is demonstrable we consider the patient has reached the limit of correction and the

spine is fused after the method of Hibbs. The Hibbs procedure is used as it has proved by far the most reliable method of fusing of the spine. This method does not depend alone upon utilizing the spinous processes for ankylosing the vertebrae to each other, but includes as well ankylosing of the laminae to each other by turning up bone flaps and the destruction or arthrodesing of the articulations of the lateral processes. Thus we have a triple ankylosing procedure instead of a single one. In fusing a spine for curvature great care must be exercised in determining the proper region to fuse. The dorsal region with one or at the most two of the lumbar vertebrae have proven the most satisfactory in our experience. The lumbar

vertebrae chosen may be the 1st and 2nd or the 4th and 5th, depending upon conditions. Ankylosing of the lumbar spine as a whole is not to be advised except in paralytic curvatures with marked lordosis.

6. After the fusing operation, a cast is worn for 3 months, a brace for 6 months longer and at the end of this time all support is discarded.

We feel that by this method of treatment we accomplish the following results:

1. Correction is secured by the most advantageous methods; i.e. correction with the removal of the superimposed weight and its deforming action.

2. The use of the corrective frame not only avoids the muscle atrophy which must occur

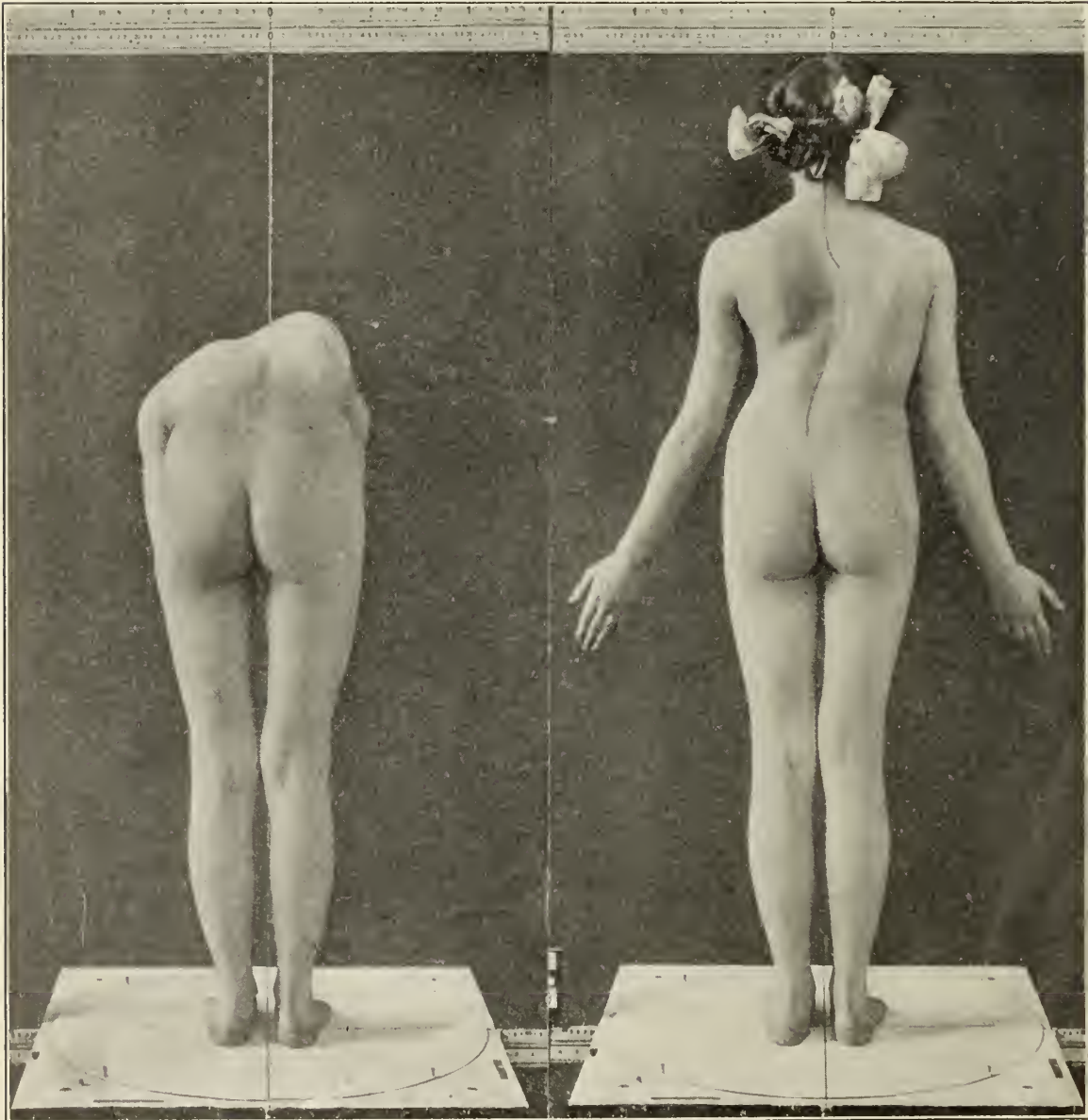


Fig. 3. Structural scoliosis with rotation of the ribs and the resulting deformity. A typical case.

with the use of plaster jackets or celluloid splints, but makes it possible to build up and develop the entire body musculature. The exercises at the same time mobilize the spine so that at the time of operation it is possible manually to add greatly to the improvement in body contour.

3. By fusing the spine, we take away nothing from the patient, as a scoliotic spine is already a rigid spine, but do assure him of retaining whatever degree of correction we have secured and insure most cases against increasing deformity.

4. The patient is relieved of the necessity of wearing troublesome and unsightly apparatus for an indefinite period of time, most of them for life.

We have in the past five years operated upon 28 cases. Of these, 12 were due to infantile paralysis; 16 were idiopathic. The ages ranged from 12 years to 23 years; females 22, males 6. The average period of recumbency on frame was, in the paralytic cases 3 months; in the idiopathic cases 5 months. The greatest number of vertebrae fused was 15; the least number of vertebrae fused was 8. Mortality, none.

The results have been uniformly successful in that but one case of the 28 has been a failure. This case not only failed to retain correction but has steadily gone on deforming in spite of support since the operation. I am convinced that the bad results in this case are due to poor judgment on my part in selecting the site for fusion and in fusing too small an



Fig. 4. Child in corrective frame with Morris saddle attachment, pressure being made over the prominence of the ribs to correct deformity.

area. Of the remaining 27 cases, none is wearing supports except the most recent cases; all have definite improvement in deformity which has been maintained without relapse. All are leading ordinary lives, being at work or at school, and all say they have no trouble with their backs. (Fig 5)

I do not feel that a paper on scoliosis would be complete without emphasizing the importance of early diagnosis in these cases. As I have stated, postural scoliosis can always be cured by the proper treatment; on the other hand, I think that I may say without fear of

contradiction that practically no case of structural scoliosis is ever cured in the sense of being restored absolutely to normal. The natural inference then is that all cases of scoliosis should be treated in the postural stage, or before they become structural. If this is not

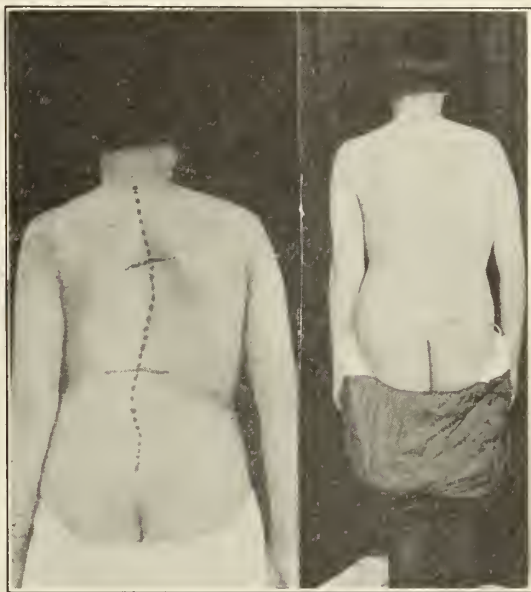


Fig. 5. Before and after stabilization. Operation $4\frac{1}{2}$ years ago. No support worn for $3\frac{1}{2}$ years. Symptom-free.

done the blame must be placed somewhere. While willing to admit that only too frequently carelessness on the part of the parents, and a disinclination to take curvatures seriously is the basis for most neglected cases, it must, on the other hand, be stated that too frequently the medical profession when consulted regarding such curves, is inclined to assure the parents that the child will outgrow it, and to tell them not to pay too much attention to it. The result is that, when the curvature becomes so bad as to demand treatment, instead of dealing with a condition which could be very readily treated, we are confronted with a back pathology the correction of which offers almost insurmountable difficulties.

CONCLUSIONS

1. Structural lateral curvature of the spine is a distressing and eventually a serious deformity.

2. The chief difficulty in its successful treatment lies in the impossibility of holding a correction gained without the constant use of cumbersome apparatus or constant exercising.

3. In the fusion operation carried out in an adequate manner upon properly selected cases, we have the best method of preventing increase of deformity and for holding any correction secured that has up to the present time been devised.

ETIOLOGY OF INFANTILE DIARRHEA*

A MODERN CONCEPTION

JOHN D. VAN CLEVE, M.D.

MALDEN, MO.

1. Predisposing Causes:

1. Age (under two years).
2. Season.
3. (Eruption of teeth.)
4. Defective hygiene.
5. Bad feeding.
6. Parenteral infection.

2. Exciting Causes:

1. Unknown Causes.
Theories.

(a) Those who maintain diarrhea is due to bacterial infection of some portion of the intestinal tract.

(b) Those who maintain the underlying cause is some metabolic or physiological derangement so that the intestines contain a large amount of undigested and unabsorbed food which is split by

the stool organisms into irritating end products.

2. Known Causes.

- (1) Flexner group of bacilli (mannite fermenters).
- (2) Mount Dessert bacilli (mannite and maltose fermenters).
- (3) Shiga bacilli (nonfermenters of ether mannite or maltose).
- (4) Typhoid bacilli.
- (5) Ameba dysentery.
- (6) Tubercle bacilli.

DEFINITION

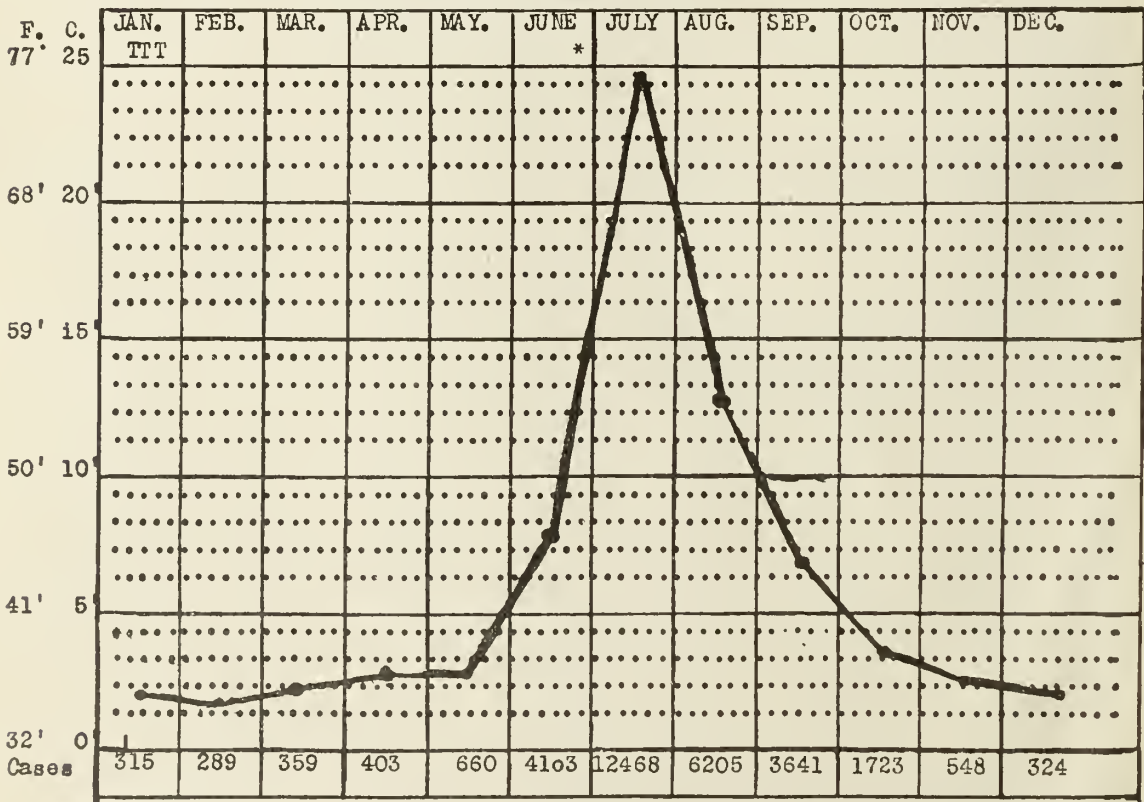
Quoting Holt¹: "The term diarrhea is used to cover all conditions attended by frequent loose evacuations of the bowels."

PREDISPOSING

Age. Age is a factor over which we have no control. Infants under two years are peculiarly susceptible, the frequency of the disease decreasing after that age. It is likely that most cases occur between the fourteenth and the eighteenth month, the so called "second summer."

CHART 1. (Seibert)¹

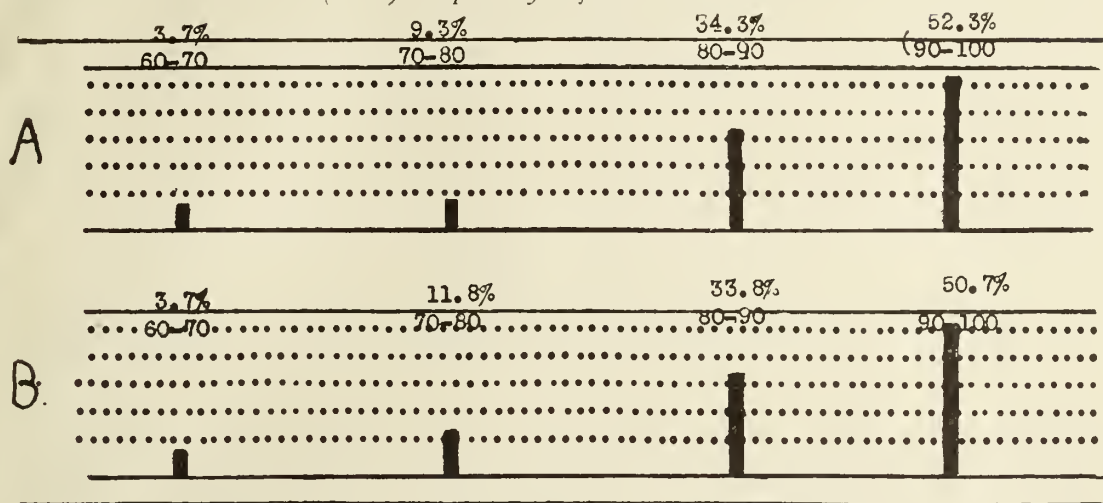
Mortality From Diarrheal Diseases in New York for Ten Years in Children Under Five Compared With the Mean Temperature for Same Period



*Read before the Dunklin County Medical Society, May 8, 1926.

CHART 2. (Bleyer)²

Diagram Showing the Relation of Heat to the Onset of Diarrhea Among 86 (1913) and 136 (1914) Dispensary Infants in St. Louis



Season. The largest number of cases occur in hot weather, July usually leading with August second, as shown by Holt¹ in his observations of such cases over a period of ten years. This is graphically illustrated in Chart 1, which shows 12,468 cases in July, 6,205 in August, 4,103 in June, 3,641 in September and the least number, 289, occurring in February. Bleyer² found in a study of 222 cases of diarrhea treated in a dispensary in St. Louis during 1913 and 1914, that more than fifty per cent. occurred when the temperature was above ninety five degrees F. This is illustrated graphically in Chart 2. Numerous experiments have been tried to determine the causal relationship between external heat and diarrhea. Normally external heat during the summer does not appreciably raise the body temperature. There is no doubt a much lowered resistance, a loss of body tone, a sluggish function of the stomach and small intestines, a loss of appetite and an increase in the bacterial flora. The hydrochloric acid of the gastric juices is decreased, as shown by Marriott,³ Davidson and Harshmann, causing a depression of the gastric secretions, a delaying of the emptying time of the stomach leaving a residual content of undigested and unabsorbed food which may create an irritating toxic end product and cause increased peristalsis.

Infants are often overheated by too many clothes, a close hot room, too long exposure to direct rays of the sun or by being placed in a deep crib or bassinet closed in by blankets to keep out the draft. The old woolen band is disappearing, cooler, breezier places are being hunted for the infant to sleep in and the crib is being pushed into a window that he may be in

a draft. Davison⁴ has shown that there is a reduction in the activities of the duodenal enzymes and secretions of the duodenum. Heat is to be considered a very important causative factor because of too many clothes, the effect on the digestive apparatus, the evaporation of fluid from the baby, the lowering of his resistance and the aid in the growth of harmful bacteria.

Eruption of Teeth. I believe most of the profession agree with Wilson⁵ whom I quote as follows: "Teething should not be accorded a place as a predisposing cause. I mention it because the diagnosis, teething, is responsible for so many deaths. It is true that during the acute teething period digestion is weakened and foods which previously agreed may disagree. Tolerance is lowered, but it is the undigested food, not teething, that causes the increased peristalsis. Many mothers think it is quite natural that diarrhea should accompany teething and allow it to progress uncared for, whereas, any looseness developing at this period demands even more strenuous efforts to correct it at once. Teething, then, is only a predisposing cause through a lowered tolerance for food."

Defective Hygiene. Diarrhea is not essentially a filth disease, nor yet is it a disease restricted to poverty. Severe and fatal cases occur in all classes. However, filthy milk and other foods play a very important part as a cause. Since the advent of certified and pasteurized milk and the boiling of all milk in summer, winter, spring and fall during the first two years of life, the disease has become far less frequent. Laws prohibiting the sale of spoiled food, screening against flies and the

refrigeration of food stuffs, have aided tremendously in the prevention of diarrhea. The long hose attachment to the nursing bottle which we saw just a few years ago has now become extinct. With better nipples and their proper cleansing along with proper care of milk bottle and nipple much has been done to prevent diarrhea.

Boiling the milk does not destroy the biological elements as was once thought. Moffett,⁶ in a review on infant feeding, says that boiled milk is unquestionably easier to digest

because it breaks up into finer curds⁷ that the gastric juice may attack more quickly. The vitamins A and B stand a two hour blast of steam and an autoclaved pressure of 15 pounds, respectively, and orange juice is given at two months for the vitamin C.

Bad Feeding. Looking back over the large number of deaths in the past diarrhea once took more than one half the children under two years, as shown by Holt¹ and illustrated in Chart 3.

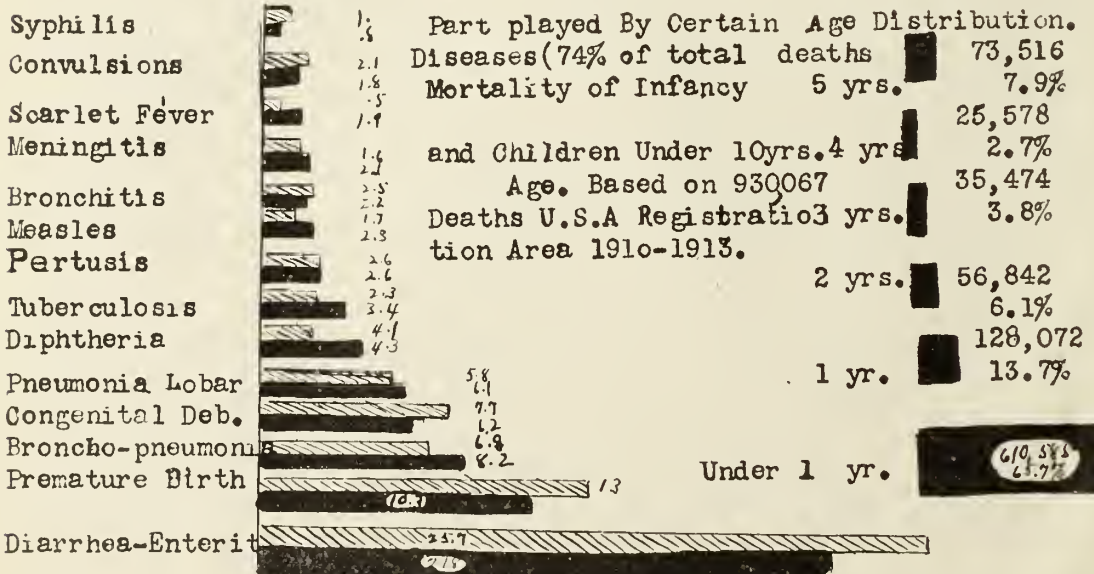
CHART 3. (Holt)¹
Deaths in New York City for Five Years

.....	1900	1901	1902	1903	1904	Totals
Measles.....	816	449	710	508	895	3,378
Scarlet Fever...(all ages).	465	1162	940	734	851	4,152
Pertusis .....(all ages).	584	289	606	324	197	2,000
Typhoid .....(all ages).	718	727	764	653	661	3,523
Diphtheria.....(all ages).	1920	2068	2015	2090	2084	10,277
Total number of deaths under 5 years						23,330
Diarrheal disease under 2yrs.	5744	5796	4938	4439	5646	26,563
*-----						

Then let us take cognizance of a more recent work on infant mortality in the 1919 text of Griffith and look over the comparative cause of death graphically illustrated by Veeder⁸ based on 930,067 deaths in subjects under 10 years of age. (Chart 4. Veeder)

It can be readily seen at a glance that diarrhea is the cause of almost half (25.7%) of the total (74%) of diseases occurring under 10 years of age. Comparing Chart 4 with the one of Holt (Chart 3) it seems that some improvement has been made in the last 10 years, or else the death

CHART 4. (Veeder)⁸
Comparative Cause of Death Under 10 Years of Age



rate in New York is greater than that over the entire United States. The former seems correct when we are again reminded by Holt⁹ that in 25 years diarrhea as a cause of death has slipped to third place and that all other diseases common to children is much less. The 9.6 per cent. for the death rate of 1921 compared with 14 per cent. of 25 years ago is surely gratifying.

CHART 5
(HOLT)
Causes of Death Under Five Years
YEARS 1896-97

<i>Cause of Death</i>	<i>No. of Deaths</i>
1. Diarrheal diseases	7,224
2. Malformations and diseases of early infancy	5,841
3. Pneumonias	5,169
4. Diphtheria	2,703
5. Acute bronchitis	1,892
6. Measles	1,042
7. Convulsions	1,010
8. Tuberculous meningitis	919
9. Pertussis	719
10. Scarlet fever	655
11. Total deaths all causes under 5 years.....	32,202
12. Estimated population under 5 years.....	225,000
13. Death rate under 5 years.....	14%

YEARS 1922-1923

<i>Cause of Death</i>	<i>No. of Deaths</i>
1. Malformations and diseases of early infancy	4,972
2. Pneumonias	3,413
3. Diarrheal diseases	1,942
4. Measles	694
5. Diphtheria	677
6. Pertussis	337
7. Tuberculous meningitis	294
8. Scarlet fever	240
9. Acute bronchitis	171
10. Convulsions	24
11. Total deaths all causes under 5 years.....	28,519
12. Estimated population under 5 years.....	297,000
13. Death rate under 5 years.....	9.6%

It can be seen from Chart 5 that diarrhea in infants under 5 years has dropped from 7,224 twenty five years ago to 1,942 of today. This is a tremendous but gratifying decrease. Now why the great difference? Holt¹ told us long ago that 95 per cent. of diarrheal diseases occurred in bottle fed babies, or less than 3 per cent. occurred in nurslings who were exclusively breast fed. Still, with this knowledge we told mothers to wean their babies, that their milk was poison to their babies, that it was chemically wrong, too poor in fat and too rich in protein. This advice was given sometimes on assumption and again on chemical analysis. We do not tell mothers their milk is poison nor analyze it any more. We weigh the baby before and after nursing to determine whether it is getting enough. Persist in keeping him on the breast and if the gain is not good we complement the nursing with a simple dilution of cow's milk strengthened with an easily digestible laxative sugar, such as dextromaltose or dark karo syrup. We are, therefore, bound to conclude that there has been something wrong with the artificial feedings of the past, so let's look into the why.

1. The average doctor has considered the baby a bugbear to the practice of medicine,

leaving its care to older women in the neighborhood to advise the mother.

2. The percentage method of feeding, so long in vogue, in recent years took too much time to figure out a good formula and then too often proved in many cases to be less effective than the easier plan of using a brand of so called "baby food" which had printed directions for the age of the baby on the can.

The doctor who graduated but a few years ago from our various medical schools was taught very little concerning the infant. It had been our practice to treat babies as a fraction of an adult. This failed and interest was lost to most men in the care of the infant.

The percentage method of Rotch was based on an attempt to make cow's milk agree in percentage of fat, protein and sugar with that of mother's milk. This seemed so logical that it was accepted as the method of choice. Chart 6 illustrates what was known as a simple manner of deriving a suitable formula.

CHART 6
(BANER)

Let Q = the total quantity desired (in ounces).
F = the desired percentage of fats.
S = the desired percentage of sugar.
P = the percentage of protein.
M = the desired amount of whole milk.
C = the required amount of cream.
A = the percentage of cream minus 4.

Then:

$$C = \frac{Q}{A} \times (F - P)$$

$$M = \frac{(Q \times P)}{4} - C$$

$$W = Q - (C \times M)$$

$$S = \frac{(S - P) \times Q}{100}$$

Example:

Desired mixture—F 3%; P 2%; S 6%, using top milk (upper 8 ounces) 14% cream.

Then:

$$(1) C = \frac{32}{10} \times (3 - 2) = 3.2 \text{ oz.}$$

$$(2) M = \frac{32 \times 2}{4} - 3.2 = 12.8 \text{ oz.}$$

$$(3) W = 32 - (3.2 + 12.8) = 16 \text{ oz.}$$

$$(4) S = \frac{(6 - 2) \times 32}{100} = 1.28 \text{ oz.}$$

This formula, Wachenheim¹⁰ states, is at least within the power of the ordinary not mathematically trained mind, the formulas of others being more complicated and still others excessively so. After trying this for a period of time most practitioners fell back on to the so called baby foods. Jacobi, however, stuck to the last to his simple dilution methods barely living long enough to see us again adopt it with slight modification. He¹¹ once said: "You cannot feed babies with mathematics;

you must feed them with brains." Just a few years ago we struggled with the protein in cow's milk believing it was the great trouble in causing digestive disturbances. We now know it can be fed in large percentages and in the sick and underfed infant must often be given in still greater quantities. Cream is now known to have been our difficult element, causing most of the trouble. Then underfeeding is the natural conclusion that we must come to as the great factor in the percentage methods. Likewise in the "baby foods" it was necessary to dilute the foods too much in order that the sugar content could be handled, leaving the protein about one half the required amount necessary to build muscle, bone and other structures except fat. The high sugar content made the babies fat and both mother and doctor were deceived in the belief that the baby was 'doing well. Since protein is the known element to build tissue and our babies got too little, their resistance became low after prolonged feedings and the very important factor of resistance or lack of resistance placed our babies in a condition favorable for the development of diarrhea. Then in the older infant we underfed because we had no one to work out a proper regime. Now that we give orange juice at 2 months, cod liver oil at 3 months, cereal at 6 months and green vegetables at 8 months, our babies have a good resistance before the period of hot weather comes on.

Parenteral Infection. Alden¹² credits Hartman, of Germany, as the first to suggest a causal relationship between otitis media and gastro-intestinal disturbances about 1898. Byfield¹³ states that two French clinicians, Barbillon and Renaud, assumed that infected mastoid antra led to gastro-intestinal disorders. Seeing three infants under two months die of gastro-enteritis, dehydration and acidosis, and finding at autopsy in each infected mastoid antrum, Byfield decided to drain this region in six other infants. Paracentesis failing, mastoid drainage was done saving the lives of others though it seemed hopeless as their condition was such that to endure operation was not expected. Marriott¹⁴ credits Jeans with reviving sinus infection in children who were previously believed not to get sinus infections. Jeans¹⁵ called attention to an acute illness in infancy with symptoms referable to the gastro-intestinal tract with such severity that death resulted unless relieved of the infection. Dean¹⁶ tells us that the paranasal sinuses are present in infants, the ethmoid cells are always present at birth; the maxillary rarely absent; the sphenoid rarely present at birth; and the frontal is not present during the first year.

Marriott¹⁷ found that fully seventy five per

cent. of severe watery diarrhea occurring in the cooler months were the result of infections in the ear and mastoid antrum. He says summer diarrheas are less likely to be due to these infections. In another article Marriott¹⁸ says that diarrhea is a symptom rather than a disease; it may be a symptom of an infection far removed from the gastro-intestinal tract, as an otitis media, pneumonia, bronchitis or pyelitis. It is more likely, he thinks, to occur in the malnourished. He¹⁹ has particularly emphasized an apparent etiological relationship between infections of a special type in severe nutritional disturbances, characterized by severe watery diarrhea, prostration, rapid loss of weight, failure to retain fluid even though given in large amounts, a gray color of the skin and acidosis. The streptococcus hemolyticus¹² seems to be the prevailing micro-organism causing the worst cases. The staphylococci infections of the middle ear cause less marked diarrhea. This type of diarrhea is one that has been known by names like acute gastro-enteric intoxication, alimentary intoxication or toxicosis and the well known cholera infantum. Believing these due to an intoxication it has been our habit to use castor oil or other laxatives in treating these conditions to get rid of the toxins; likewise we have been putting these babies on barley gruel or some other watery solutions thus starving and purging our babies to death. We now know that purgatives are not needed as they increase the water loss and produce more acidosis. It is likely that castor oil is converted into racineolic acid which irritates the already inflamed intestine, converting what might otherwise be a simple diarrhea into a severe one.

The toxic condition is caused in part by an acidosis due to a retention of phosphate in the serum, the failure of the renal function being due to excessive water loss from the body by way of the bowel. The blood of these infants is concentrated by the water loss, or in a few words the toxic symptoms are a shock like symptom all explained, according to Marriott,²⁰ by an anhydremia in which a parenteral infection may be the primary factor acting as a cause.

That parenteral infections explain all these conditions is not claimed, for Marriott himself states that parenteral infection occurs in the cooler months. Many of these toxic diarrheas we all know come in June and July, and in a study of 220 cases coming under Zahorsky's²¹ observation in 1925, he found anhydremia would not explain all the toxicities, and believes that a true toxic substance, probably a colitoxin, produces the symptoms. Parenteral infection plays a very important part as a predisposing

factor and according to Alden¹² otitis media is found in 87.7 per cent. of them.

EXCITING CAUSES

Of the exciting causes we have the (1) unknown and the (2) known causes. For the unknown causes there are two theories: (a) Those who maintain that the underlying cause is due to a bacterial infection of some part of the intestinal tract. (b) Those who maintain that the underlying cause is some metabolic or physiological derangement so that the intestines contain a large amount of undigested and unabsorbed food which is split by the stool organisms into irritating end products.

For the known causes we have the Flexner group of bacilli, the Shiga and the Mount Desert bacilli. Typhoid, tuberculosis and amebic dysentery are to be thought of and differentiated.

Unknown Causes. Theory 1. The colon, proteus, welchii (gas), pyocyanous, Morgan's, and acidophilus bacilli have been accused of causing the disease as well as the streptococcus enteritidis. Davidson and Rosenthal,²² after a study of the normal and diarrheal stools, decided these organisms could be dispensed with as a primary cause because there is no pathology to be found and that these organisms occur in the normal stool as well as in the diarrheal stools. In a study of a large number of stools in the normal and diarrheal infant, they found "putrefactive" flora and believe the presence of putrefaction is no indication for change of diet. They decided it was impossible to disprove or to prove that "putrefactive" flora is significant in intestinal disturbances, believing the indications are that the flora is the result of the diarrhea rather than the flora being the cause of the diarrhea. To use their²² conclusions:

(1) The so called "putrefactive" and "fermentative" types of stool flora occur too frequently in normal children to be of diagnostic or therapeutic significance in patients with nutritional disorders.

(2) A "putrefactive" flora is without etiologic importance in the stools of patients with dysentery and probably also in cases of acute and chronic intestinal indigestion.

(3) The organisms capable of producing the cultural reactions ascribed to the "putrefactive" type of stool flora are harmless saprophytes.

(4) The influence of diet on the incidence of a "putrefactive" flora is not striking.

Theory 2. Metabolic and physiological derangements. In 1923 Boyd²³ found extracts of the intestinal mucus membrane from cases of acute intestinal intoxication in children, containing a toxic substance which when injected into animals produced a definite symptom complex, consisting of depression and narcosis, anorexia circulatory failure, increase in the number of intestinal evacuations and in some

cases convulsions and death. No pathological findings were seen in any of the fatal cases. Systemic blood from cases of acute intestinal intoxication was slightly toxic when injected into animals and portal blood was very toxic. Zahorsky²¹ in a recent study of 220 cases of diarrhea is skeptical of the theory that toxic intermediary products are the primary cause of this intoxication. Dysentery did not explain his cases and he believes Plantega has proven such a substance termed toxotoxin. This may be the same substance described by Boyd. Davison²² states that the end products of colon metabolism may be responsible for toxic symptoms.

The mechanical diarrheas due to cherries, berries, green apples, green grapes, plums, green vegetables, new potatoes, spoiled milk and ice cream are important because of an irritant, producing inflammation of the mucus membrane of gastro-intestinal tract. It is probably some of these substances that cause most of the cases in the older child in the early summer.

The hunger diarrhea probably is the most common type seen in the younger bottle fed infant in the early summer, caused by under feeding on a formula too low in protein and lacking in vitamins, and as hot weather approaches shows an inclination to a looseness, is then dosed with castor oil and feeding made more dilute, then a typical hunger stool develops and unless recognized and fed up will most certainly be gradually and slowly starved and purged to death.

Changes in the reaction of the gastric juices and duodenal enzymes have already been referred to and no doubt play an important role in the cause of diarrhea. Marriott²⁴ has demonstrated changes in the reaction of the gastric juices in infants suffering from diarrhea, showing the hydrogen ion concentration in normal gastric contents of breast fed babies to be pH 3.6 while the child with nutritional disturbances on mother's milk was 5.1 and on cow's milk was 5.4. This is apparently proven by the good results gotten with lactic acid milk. Davidson²³ found the duodenal enzymes, that is the protein and starch splitting enzymes, were reduced, which he believes explains the increase in undigested and unabsorbed food in diarrheal stools. He also believes that since most diarrheal stools are acid carbohydrates increase and aggravate diarrhea on account of failure of the intestine to digest and absorb it.

Known Causes. Among the known causes are those conditions known as dysenteries. The recent work of Wollstein²⁵ considers the Shiga, Mount Dessert and Flexner group of bacilli. The Flexner or mannite fermenters are differ-

entiated from the Shiga by their ability to ferment mannite. The Mount Dessert ferment both mannite and maltose. From July to September she found in a study of 86 diarrheal children's stools, 3 were the Shiga type, 5 were the Flexner type, and 12 were the Mount Dessert type. Davison says only about 10 per cent. are the Shiga and about 80 per cent. are the mannite fermenting types, found in this country. The highest fatalities occur in the Shiga, about 66 2/3 per cent. (Wolstein) running a shorter course while the mannite fermenters run four weeks or longer.

For a reasonable conclusion on the etiology, I believe to quote Davison²⁶ will be sufficient: "Although there is, as yet, no absolute proof of the etiology, it would seem probably that infantile diarrhea, except bacillary and amebic dysentery, is not a primary bacterial infection, but that, as a result of changes produced by external heat or some other cause, the gastric acidity and motility and the gastric and duodenal enzymes are reduced. Undigested and unabsorbed food is then fermented by the stool organisms, either in the small or the large intestine into irritating end products which accelerate peristalsis and produce diarrhea.

"Experiments on dogs have demonstrated that repeated small doses of some of these end products can accomplish these results. The action of the end products is probably in the nature of a chemical irritation rather than a bacterial inflammation and thus the absence of post mortem lesions may be explained.

"Jackson, in 1812, probably came near the truth when he attributed 'the chemical' changes which take place in the contents of the stomach and bowels of children dying of diarrhea to putrefaction of animal food and the acetous fermentation of that which is vegetable."

With this modern view of the etiology it seems to me a classification is necessary before proper treatment can be carried out with our diarrhea cases. There has been numerous classifications, possibly nearly as many as there has been doctors. The classification of Zahorsky²⁷ has been the one I have been going by until that of Bess²⁸ seemed more suitable, but during this summer I have planned to use one of my own which is shown in Chart 7. It has the advantage of conforming to modern etiology, pathology, diagnosis and treatment.

CLASSIFICATION OF ZAHORSKY²⁷

1. There is the infant who is suffering for a long period from digestive disorders, has lingered at the threshold of death, and the sudden appearance of extremely hot weather has served as the last killing factor. The sharp peak in the mortality curve is made up of a large number of these cases.
2. The group of cases is made up of young children who are given new articles of food during the summer, such as cherries, apples, strawberries, plums, green vegetables, peaches, melons, etc. These cases are rarely serious and do not add to the mortality, but increase the number of clinical cases.
3. A third group embraces infants suffering from acute indigestion due to overfeeding on hot days. These patients

have the well known symptoms of fermental diarrhea and rapidly recover under dietetic measures. It is questionable whether these cases are much more frequent in summer than in the winter.

4. A fourth group of cases is undoubtedly due to spoiled milk. These occur on very hot days when even the refrigerators and ice boxes have a temperature of 60° F. or more, and all housewives report that their milk and cream are sour. Except in infants whose nutrition is already very low, these cases are rarely serious. Vomiting is the most pronounced symptom in these cases.

5. There is the dysenteric group. The infant is acutely ill, and remains sick for one to more weeks. The disease is characterized by the passage of mucus, blood, and macroscopic pus, in the stool.

6. Summer diarrhea. The characteristic symptoms are sudden onset, fever, toxic symptoms, vomiting and diarrhea. The toxic symptoms usually last for 24 to 36 hours except in very young infants. The persistency of the diarrhea distinguishes the disease from the ordinary fermental diarrhea from overfeeding.

CLASSIFICATION OF BESS²⁸

1. Intestinal indigestion.
2. Infectious diarrhea.
 1. Sugar and starch diarrhea.
 2. Sugar intoxication.
 3. Protein diarrhea.
 4. Mild infectious diarrhea.
 5. Ileocolitis.
 6. Acute infectious diarrhea.
 7. Cholera infantum.
3. Miscellaneous diarrhea.
 1. Mechanical diarrhea.
 2. Diarrhea from cathartics.
 3. Marasmus.
 4. Typhoid.
 5. Amebic dysentery.
 6. Tuberculosis.
 7. Ulcer.

CLASSIFICATION BASED ON THIS PAPER

1. Simple Diarrhea. a. Includes mechanical diarrhea, acute indigestion, mild fermentative diarrhea. b. Cause—Unripe fruit, vegetables, spoiled milk, ice cream, carbohydrates. c. Diagnosis—Fever, vomiting, loose yellowish stools with food particles, more or less fecal, then yellowish green, and finally green. d. Treatment—The only diarrhea that a laxative may be justifiable in. Milk of magnesia one dose only and that only if vomitus or stool contains undigested food. Starvation of 18 to 24 hours. Water by mouth or rectum in abundance. Bismuth in 19 gr. doses at 2-hour intervals. Feeding of lactic acid milk or breast. Later, orange juice and vegetable soup if old enough. A little paregoric may occasionally be needed.
2. Toxic diarrhea. a. Includes acute gastro-enteric intoxication, alimentary intoxication, cholera infantum. b. Types. (1). Summer diarrhea. (2). Parenteral infection. c. Diagnosis. Sudden onset, fever, very toxic appearance, vomiting, watery diarrhea, prostration, somnolence, sunken eyes, cold dusky skin, slow pulse, increased respiration, inelasticity of skin, and dehydration. In June and July is more likely 1. In late August and cooler months, 2, the streptococcus in middle ear 87 per cent. of cases. d. Treatment. No purgatives, proper feeding main necessity. Protein milk or, better, skimmed lactic acid milk, later added corn syrup and still later whole lactic acid milk. Orange juice, vegetable soup in convalescence. Abundance of water, orally by rectum, saline intervenously, Ringer's solution intraperitoneally, glucose and insulin and blood transfusions in advanced cases. If focus of infection, proper drainage, auricular drainage and treatment for pyelitis most often needed. Medicines. Morphine 1/125 to 1/50 gr. for frequent squirting stools, 2 to 5 m. adrenalin (1 to 1000) for collapse, 1 to 2 gr. caffeine soda benzoate, 1/000 to 1/600 gr. atropine 2 hr. intervals.
3. Dysentery. a. Cause. Mount Dessert, Shiga and Flexner group of bacilli. b. Diagnosis. Sudden onset, anorexia, fever, vomiting, convulsions, irritability, drowsiness, later stools loose, by second day blood, and as many as 30 actions mucus and macroscopic pus. c. Treatment. Serum disappointing. Practically same as for toxic diarrhea.

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X-RAY EXAMINATION OF THE CHEST*

L. G. ALLEN, M.D.

KANSAS CITY, KANSAS

The X-ray examination of the chest offers to the present day clinician a most dependable source of information. This conclusion follows a long debate, beginning in the period immediately preceding the World War and continued into the interval, when a rather heated controversy was waged between jealous clinicians and radiologists as to what could be expected and relied upon from X-ray investigation of the lungs.

We seem to have emerged from that controversy and in some instances have permitted the pendulum to swing to the opposite extreme where the X-ray examination is allowed to supercede or replace other methods of investigation. The busy surgeon whose greatest interest lies below the diaphragm often hastens to accept as final a more or less reliable radiograph or even worse fluoroscopic examination as denying pulmonary pathology.

X-ray examination is fast losing the reputation that it may only be comprehended by the highly trained specialist. This is as it should be, for the radiograph is but the projection on a photographic plate of shadows produced by the passage of the cone of light through the tissues of the part examined. It consists of a single clinical observation and ranks as such.

The interpretation of any radiograph is but the recognition of projected anatomy, anatomical variation and their reaction to pathology.

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Thus the clinician who, until the time of perfected X-ray examination, struggled to visualize by palpation, percussion and auscultation the pathological process present within the chest, now has another aid, the projection of the densities of that pathology on a photographic plate.

The degree of precision to which a radiograph may be interpreted depends entirely on the ability of the interpreter to assess shadow values as projected by the character of the radiation employed.

Fluoroscopy has a very definite place and no X-ray examination of the chest is complete without a careful fluoroscopic examination. We find its greatest application in the evaluation of motor pneumonic function and evaluation of the relationship of shadows in the chest. The excursion of the diaphragm, the expansibility of each and a comparison of both lung fields, aeration reflex of the apices, the relation of questionable shadows when visible, the heart size, shape, and the character of the pulsation, the relation of pulsating masses to the heart, the breadth and clarity of the prevertebral space, fluid levels, and the changes brought about by change in position, are points which assist the interpretation of the finished radiographs.

Fluoroscopy, however, fails to show the fine pulmonary detail so necessary. To be sure there are a certain group of cases in which the diagnosis can be made fluoroscopically. It is my intention, however, to consider in this discussion, the early changes manifest in the lungs before the gross or fluoroscopically visible parenchyma changes have transpired.

About three years ago we began a detail study of the chest cases wherein we have attempted to tabulate the clinical signs and the radiographic finding in an effort to correlate them more precisely. The diagnosis of early tuberculosis as well as the evaluation of its progress or regression received the greater attention. I wish to discuss some of the factors which form the basis of such a tabulation, limiting myself to the consideration of the projection of the pathology of early lung changes.

As a premise and for the purpose of classifying the lesion state, we think of the parenchyma tuberculous lesion to exist as (1) infiltration; (2) induration or hepatization; (3) organization; (4) caseation; (5) cavity formation; and the steps in the reparative process as (1) resorption, (2) fibrosis, (3) calcification.

If we can classify the various lesions present in a given chest under these headings we can crystallize an opinion regarding the stage of the disease, the character of the tissue reaction to the infection, the comparative rate of involve-

ment, the type of the disease, etc. It will form the ground work upon which a correlation of the clinical signs might be based. At the same time, as well as by later observations, a definite idea of progress or regression can be obtained. Experience with the classification should permit at least a tentative prognosis.

It is apparent that the registration of the lesions assumed on the radiograph is the actual problem. The X-ray beam coming from the focal spot of the tube, exists as a cone and penetrates substances in direct proportion to their density.

The lungs, due to their air content, are quite transparent to the passage of the ray affording excellent detail of structure the dense bony thorax surrounding, and the heart between offers good contrast.

The size and arrangement of the pulmonary vessels are never exactly the same in two individuals. The amount of fibrous tissue incident to age together with the perivascular changes and the anthracotic deposits will all evidence themselves by increased shadow densities. Most important of all normal variations is the difference in patient, size, and type. Were one to attempt the interpretation of the chest of a asthenic individual whose P.A. diameter was twice that of the asthenic and whose subcutaneous tissue was three or four times the thickness of the latter he would be lost at the start.

Secondary radiation, the radiologist's greatest handicap and the radiotherapist's greatest aid, changes the appearance of a given lesion in the thick chested individual as compared with the slender person and, even more important, explains for the most part the difference in appearance between a lesion located in the posterior lung as compared with one located anteriorly close to the plate.

The lung fields contain a network of shadows more or less sharply outlined in the average chest against the highly transparent air contained portion. These shadows are produced by the blood vessels, the bronchi and lymphatics together with a variable amount of connective tissue. It is generally accepted that by far the greater portion of these lung markings are the shadows cast by the blood and blood vessels. This conclusion comes also only after a somewhat prolonged debate. Marquis, of the Mayo Foundation, recapitulates the opinion of several investigators together with his own conclusion¹ and virtually sets the discussion at rest.

The root lung shadows show a marked variation in appearance. They are produced by the large pulmonary vessels, the lymph nodes, bronchi and the connective tissue surrounding. Pathological study of the root lung of adults

invariably shows nodal anthracosis together with marked connective tissue hyperplasia, and calcium deposits in the lymphatics to some extent is almost universally met with. It is obvious, therefore, that little clinical significance can be ascribed to the more moderate changes at this site. To be sure, a true normal hilus shadow would be hard to describe and is seldom if ever met with among metropolitan patients. Gravest errors in diagnosis of the chest result because of a lack of appreciation of this fact.

The aid of stereoscopy and the assistance of the third dimension is of tremendous value. The plates should be studied both singly and stereoptically. Only one major source of error is to be considered, namely, the vibration of the instrument in shifting the plates which results in slight blurring of the entire plate.

Waring and Wasson have shown that two thirds of the lung fields of an adult on a single radiograph are obscured by the shadow of the bony parts. Ideal images of all parts of the chest cannot be obtained by a single or even a stereo pair of plates. Additional radiographs should be made of points under special scrutiny.

Given a radiograph, with these variable factors in some degree of their normal variation, one more question must be thoroughly understood, viz, how was the radiograph produced, and then the shadows produced by pathological changes can be added to the word picture.

(1) Movement of chest contents by respiration must be eliminated during exposure. The shaking of the thoracic contents incident to the heart beat can only be defeated by making the exposure rapidly enough to eliminate this movement. The importance of speed is realized when we divided the pulse rate of the average frightened patient by 60. If this should be 120 we have two complete cardiac cycles per second and an exposure of 1/10 second covers 1/5 cycle. If the pulmonary vessels are at the period of distention, definite blurring might be expected. This fact is appreciated by comparing the plates of a stereo pair, in which one seems much sharper in detail than its mate. The conclusion is that in the one, that a fifth of the cardiac cycle, in which the greatest movement is present, occurred at the time of the one exposure while the other caught the heart in the period of cardiac rest. Since the advent of double coated films and double radiographic screens, much has been accomplished in this respect. It is generally accepted that an exposure time not to exceed 1/10 second is permissible; however, even faster exposures are desirable and the recent advent of a new tube will permit single impulse exposure time.

1. *Am. J. Roent.*, September, 1925.

(2) Shadow distortion in addition to the effect of secondary radiation will depend primarily on the distance of the tube from the plate during exposure. While theoretically at no point are the rays from the tube parallel, distances greater than 72 inches produce no appreciable change in the size of the heart shadow. For practical work a distance of 36 inches at least must be maintained that unreliable distortion and haziness may not occur.

(3) The size of the source of the cone of radiation is a secondary factor in pulmonary distortion. This is never an exact point but varies in regard to the size of the focal spot of the tube used. The smaller the focal spot which will permit the factors necessary for exposure is the tube of choice.

(4) From the standpoint of radiographic detail, screen contact is even more important for unless all portions of the plate occupy an absolutely firm contact with both screens, blurring of the shadows will result. Unless this fact is appreciated one might easily interpret pathology into a chest where none existed should the plate exhibit this error.

(5) The position of the patient is also of prime importance. Whenever possible the patient should be standing or sitting upright with the anterior chest nearest the plate, the tube centered on the sixth dorsal vertebra. Engorgement of the pulmonary vessels and upward displacement of the diaphragm occurs when the patient lays prone causing an exaggeration of the pulmonary shadows and producing a corresponding blurring.

(6) The intensity of the radiation will depend on the size of the patient's chest, and each patient is a problem unto himself and no hard and fast rule can be formulated. A record should always be made so that in the event of re-examination for comparison, the same intensity of radiation can be used. Any method wherein chest depth and density selects proper intensity, is satisfactory.

In any pulmonary chest plate some idea of radiation intensity can be had by observation of soft tissue detail. If the spine is seen clearly through the heart shadow and the line of the pectoralis major in men or the breasts of women are not to be distinguished, one can be sure that a great deal of soft tissue has been blotted out by over penetration or over exposure.

The dark room procedure, though of paramount importance, we will pass with a single sentence. No matter how careful the exposure technique has been performed, the development may easily set it to naught. Here we are dealing with an exact chemical process in which many variables can creep in, but from which

all can be eliminated. It is obvious of course that a lack of proper development must be recognized in the finished film that shadow values may be correctly evaluated. Screen abrasions, chemical stains, film defects and artifacts must not be read as pathology.

As an example, consider the normal aeration of the lungs. The air content, degree of inspiration, or the presence of emphysema is estimated by the degree of blackness of the plate. Obviously one must be informed or be able to evaluate as to the intensity of exposure, be able to estimate penetration and judge the degree of development to which the plate was carried, if such an opinion is expressed. Simply because the lung fields look black does not necessarily imply emphysema.

All these factors and their intelligent evaluation on the finished radiograph while possibly giving the initial impression as being technical and nonessential, mark the difference between radiographs from which reliable information may be had and just X-ray pictures. They define the difference between a basis of intelligent opinion and uninformed fancy.

Federal Reserve Life Ins. Bldg.

INFECTIOUS MONONUCLEOSIS; OR ACUTE BENIGN LYMPHADENOSIS*

REPORT OF TWO CASES

THOR JAGER, M.D.

WICHITA, KANSAS

In the last few years a very interesting symptom complex has been described by various writers. The main characteristics of this disorder, which occurs almost exclusively in young adults, are acute enlargement of the lymph glands, especially those of the neck, accompanied by a splenic enlargement and a more or less severe angina, with moderate rise of temperature. The deciding feature, however, is the appearance in the blood stream of a large number of atypical mononuclear cells. The course of the disease is of short duration and although complete recovery is the rule it takes many months before the blood picture returns to normal.

This disease or symptom complex is probably not very rare, even though comparatively few cases have been reported in the literature. The term acute benign lymphadenosis with lymphocytosis, suggested by Downey and McKinlay, seems to be more appropriate than that employed by other writers. Acute benign lymphoblastosis is misleading. It is highly desirable that some agreement should be reached in re-

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gard to the nomenclature so as to avoid the present confusion of terms. Whether or not the glandular fever of Pfeiffer, occurring almost exclusively in children, is identical with infectious mononucleosis is somewhat doubtful.

A study of the literature shows that although the clinical aspects of the cases reported are quite uniform and clear cut, no real agreement exists in regard to the hematologic interpretation of the abnormal cells found in the blood during the course of the disease. This difference is probably due to a diversity of opinion as to the classification of the various white cells of the blood. In an article by Downey and McKinlay,¹ Downey has, in my opinion, given the most satisfactory hematologic interpretation of the mononuclear cells so characteristic of this disorder. The article also gives a very complete bibliography.

The two cases about to be described do not differ essentially from those published by other writers, but as they showed certain interesting clinical symptoms they are perhaps worth considering.

REPORT OF CASES

Case 1. An unmarried woman, 24 years old, school teacher by occupation. The family history is unimportant. She had had the usual diseases of childhood, measles, chicken pox, whooping cough and mumps, and was admitted to the hospital October 31, 1924, complaining of diffuse and rather severe abdominal pain of one week's duration. The pain, which was much worse at night, was associated with nausea, an occasional attack of vomiting, and was not influenced by eating. The week preceding, she had felt very weak and tired, had complained of headaches and general muscular pains.

The physical examination showed a fairly well nourished young woman with normal heart and lungs. Her blood pressure was 115/80. The teeth and gums were in excellent condition. The pharynx was slightly red but the tonsils appeared normal. The cervical lymph glands, especially those of the posterior chain, were all enlarged and varied in size from that of a kidney bean to that of a hazel nut. Both the axillary and inguinal lymph glands were similarly enlarged. The spleen was palpable, extended fully an inch and a half below the costal margin, was firm but not tender. The lower border of the liver could also be palpated. There was some general abdominal tenderness, most marked in the upper abdomen. Fluoroscopic examination of the chest showed no increase in the size of the glands of the hilus. Her temperature was a 100 4/5 and pulse 108.

On November 1, the day after her admission to the hospital, the laboratory findings were as follows: The urine contained some albumin and a few hyalin casts. The Wassermann test was negative. The red blood cells were 4,500,000, hemaglobin 80 per cent. (Dare), leucocytes 7,600 with a differential count, of 31 per cent. polymorphonuclear neutrophils, 2 per cent. large mononuclear leucocytes and 67 per cent. lymphocytes. No malarial parasites were found.

Course of the disease. The abdominal pain gradu-

ally became less and disappeared entirely within a few days. The fever, which had remained above 100, also reached normal about the same time. On November 9, ten days after her admission to the hospital, she complained of a sore throat for the first time. The pharynx was found to be very red and slightly swollen, but there was no visible exudate and the bacteriological examination revealed no specific organisms. The leucocyte count was 18,900 with a differential count of polymorphonuclear neutrophils, 20 per cent, eosinophils 1 per cent, large mononuclear leucocytes 3 per cent. and lymphocytes 76 per cent.

The enlarged lymph glands, spleen and liver gradually decreased in size and in three weeks they were no longer palpable. The accompanying table shows the fluctuation in the blood count for a period of ten months, from the first of November, 1924, to the third of September, 1925, during which time I had the opportunity of observing the patient more or less continuously.

TABLE 1. CASE 1.

Date	R. B. C.	W. B. C.	Polymorphonuclear Neutrophils	Eosinophils	Basophils	Lymphocytes	Large Mononuclears	Hemoglobin
11/1/24	4,500,000	7,600	31%			69%		80%
11/7/24		11,000	28%	2%		70%		
11/8/24		8,100	18%			76%	4%	
11/9/24		18,900	20%	1%	1%	77%	3%	
11/13/24	4,200,000	14,000	21%	3%	1%	69%	6%	80%
11/19/24		10,000	15%	1%		82%	2%	
11/22/24		7,300	29%	2%		66%	3%	
12/1/24		6,800	44%	2%	2%	51%	1%	
12/20/24		6,100	60%	4%		34%	2%	
5/18/25		6,600	64%	5%		30%	1%	
9/3/25	4,200,000	7,000	72%	2%		22%	4%	85%

The cells, which I have classified as lymphocytes, were distinctly atypical and differed in many respects from the lymphocytes found in the normal blood. They all showed the characteristic lymphocyte nucleus, with its strongly basophilic, broad and short chromatin bars, and with very few parachromatin gaps. Many of the nuclei also showed very dark round bodies, which could be mistaken for nucleoli but the latter, being of parachromatin origin, are always less basophilic. The form and size of the nucleus in these cells were quite variable. While many were round or oval, the great majority were irregular in shape, some lobulated, others kidney shaped, while still others showed peculiar tongue-like projections of the nucleus. In most of the cells the nucleus was excentrically placed. The cytoplasm was decidedly basophilic, the hyaloplasm being visible only in places in the form of vacuole-like areas. Many of the cells contained a few azurophil granules but no azurophil rods were found. None of these cells showed any oxydase granules, when stained according to Pappenheim's or Graham's method. The width of the cytoplasm was also quite variable, the majority of the cells showing a wide rim of cytoplasm.

1. Archives of Internal Medicine, 1923.

The size of the nucleus was approximately twice that of a normal lymphocyte. Downey's statement, that it is quite possible to show the various intermediate forms between the most atypical cell and the normal lymphocyte, was verified by the blood specimens.

On November 9, ten days after the patient came under my observation, when the total leucocyte count rose from 8,100 to 18,900, the type of lymphocytes present in the blood underwent an interesting change. The great majority of the cells now showed a relatively large and round nucleus with a very narrow, strongly basophilic cytoplasm which, according to Pappenheim and Downey, would indicate the entrance into the blood stream of younger cells than those previously described. The hematologists just quoted believe that the age of a cell at a certain stage of differentiation can be determined by the form of the nucleus and its relative size in comparison to the cytoplasm. Thus an irregularly shaped nucleus with a relatively large amount of cytoplasm is the sign of age, while youth is characterized by a round and relatively large nucleus with very little cytoplasm. This difference in the shape of the nucleus applies to all leucocytes; and Arneth and Schilling have made clinical application of this difference in regard to the polymorphonuclear neutrophils inasmuch as they hold it prognostically of great importance to determine the proportion of young or old neutrophils in the blood in various types of infection. This ontogenetic difference must not be confused with the so called homoplastic differentiation of Pappenheim, which is based on the absolute size of the nucleus. According to this homoplastic differentiation, the cells here described would be classified as large mesolymphocytes. Downey prefers the term leucocytoid mesolymphocyte.

For the second case I am indebted to Dr. J. R. Campbell, of Pratt, Kansas, who referred the patient to me and who has furnished me with much of the clinical data here presented.

Case 2. The patient was nineteen years old, a farmer by occupation, with a family history of no especial interest. He had had the usual diseases of childhood but otherwise had been perfectly well until this illness, which began on July 18, 1924. The chief complaint was sore throat, difficulty in swallowing and pain in joints and muscles. The physical examination revealed nothing of importance, except that the pharynx and the tonsils appeared quite red but with no visible exudate. The gums and teeth were in good condition. The cervical lymph glands and those of the inguinal region were definitely enlarged and somewhat tender. The spleen was distinctly palpable. Heart and lungs normal. The patient had a temperature of 101, pulse 98.

Laboratory findings. Wassermann test negative, urine normal, red blood cells 4,500,000 hemoglobin 85 per cent., leucocyte count 10,000. The Widal reaction was negative. Wassermann test negative.

Clinical course. The following day the patient complained of a great deal of abdominal pain and painful movements of the head and neck. The temperature continued to run high, from 101 to 103, for two weeks. With the disappearance of the fever, the patient felt quite well again and the enlargement of the lymph glands as well as the spleen gradually disappeared. The blood findings on the subsequent days are shown by the accompanying chart. The lymphocytes present in the blood in this second case did not differ in any essential way from those described in the first case.

TABLE 2. CASE 2.

Date	R. B. C.	W. B. C.	Polymorphonuclear Neutrophils	Eosinophils	Basophils	Lymphocytes	Large Mononuclears	Hemoglobin
7/22/24	4,500,000	10,000						85%
7/25/24		28,000						
7/26/24		35,000	12%			86%	2%	
8/1/24		42,000	11%			86%	3%	
8/17/24		26,000						
8/23/24		20,000						
9/5/24	4,800,000	9,000	28%	3%	1%	64%	4%	
12/1/24			57%	1%		41%		

COMMENT

The two cases here described have many features in common, notably the enlargement of the lymph glands and spleen, the fever and the abdominal pain. The latter was quite prominent in the first case described and severe enough to make one consider the possibility of an acute abdominal disease, such as appendicitis. It will be recalled also that the patient had nausea and vomiting and some fever.

Abdominal pain as a symptom in infectious mononucleosis was mentioned by Longcope in two of ten cases and by McKinlay in one of nine. In the four cases reported by Bloedorn and Houghton no mention of it is made. It is difficult to account for this symptom, which one also finds in cases of leukemia and Hodgkin's disease, when the mesenteric lymph glands are extensively involved. (Abdominal tenderness seems to have been present in most of the cases reported.)

The skin eruptions, usually of purpuric type, described by several writers on the subject were absent in my cases. The occurrence in the blood stream of the abnormal cells just described might easily lead to a diagnosis of leukemia, especially when the total leucocyte count is high, as in my second case. Such a diagnostic error can usually be avoided by careful study of the morphology of the cells. The absence of other leukemic features and above everything, the benign course of the disease, also tend to obviate such an error, although a normal or even subnormal total leucocyte count is of course quite compatible with the diagnosis of leukemia.

The etiology of infectious mononucleosis is up to the present time unknown. The suggestion that it is due to a streptococcic infection, although unproved, is alluring. The angina, the splenic enlargement, the various purpuric eruptions, sometimes found, harmonize with this view, but the negative bacteriological findings and especially the consistently negative blood cultures made by various observers, still leave the question unproved. The organism characteristic of Vincent's angina, although found in quite a few of the cases reported, probably bear no definite etiological relationship to the disease. McKinlay found them present in four out of nine cases, Longcope in three out of ten, Bloedorn and Houghton in three out of four, while both Major and myself found them absent in the cases reported by us.

The suggestion brought forward by some writers that infectious mononucleosis represents a peculiar individual reaction to infection, has been disproved by Sprunt and Evans, who have shown that these same individuals react in a normal manner with neutrophilic leucocytosis in subsequent infections.

THE COUNTY HEALTH UNIT—IS IT WORTH THE EXPENSE?

J. F. CHANDLER, M.D.
OREGON, MO.

The prerequisite for the head of a county health unit, the full time health officer, in no sense differs from any other calling in so far as efficiency is concerned if one would succeed in bringing about results that are worth while for the time and money expended in the work. That success may be assured, the one in charge of the unit should, first of all, be qualified for the work he undertakes to do—be efficient—and possess energy, tact and a willingness to do. If he understands the work and willing to do it, he will see more to be done than he can accomplish. He will find no time to sit idly with feet on desk and dream of other things, for much will remain to be done even though he is hung on wings.

The responsibility is great. Every working hour may be put in profitably to the good of public health if the health officer is awake to the duty of his calling. Goethe puts it thus: "It is not enough to know; we must turn what we know to account. It is not enough to will; we must do."

One cannot expect to get an inspiration or gather momentum while sitting idle in a stuffy room. Get out into the open—in God's out-of-doors—and inhale deeply and the old engine of its own accord will start action, the brain begin to function, new thoughts engendered, the

eyes open widely from the stimulus of light, and as the old engine pumps fresh blood throughout the system you will rejoice in the fact that an opportunity awaits you, and you will see much to be done for the good of humanity.

None are so blind as those who will not see and in a sluggish brain remains the thought, "To be or not to be?" Settle the question by being up and doing.

If a county health unit fails to make proper showing it is not due to lack of opportunity. The failure, in part at least, may be due to the personnel who compose the unit. It may be from lack of cooperation on the part of the members; inefficiency of some one connected therewith; unwillingness of the health officer to go up against the work; friction between the elements composing the unit; or from a desire on the part of the one at the head of the unit to show favor to some persons whom he should control in the discharge of his duties. Failure in some instances may come from lack of foresight on the part of the health officer, he failing to properly instruct those under him as to the duties and responsibilities connected with the work, that system may be carried on properly, that there be no overlapping of work and waste of effort, and uniformity as to statements made by all when instructions and information are given to the public.

The health officer should have full charge of the work, and it should be his duty to direct those under him. There must be, if success is assured, a central figure, a ruling head, an executive. Each one connected with a unit should have a place assigned, know his duties and his place, and remain where he belongs. The work differs in no sense from the practice of medicine in that the doctor should have charge and the nurse obey orders, not the opposite, as is too often the case.

Although politics enters in occasionally and defeats the purpose of the health officer in his efforts to prevent disease, while discouraging, this should in no way belittle the calling of one so engaged. Owing to political affiliation, an inexperienced person with little qualification for the work supplants another of superior ability. This too, is very discouraging, yet there remains satisfaction in the fact that public sentiment is a powerful force for good, and in time decency and common sense win out.

On the level the field may be crowded, yet there still remains room on a higher plain. Ascend higher through the impulsive influence of improved qualifications—learn something every day.

No calling offers a greater opportunity to do good. The field is unlimited. It offers an opportunity to evangelize the world. Good

health! Is there anything of more importance? If not, why fail to work for it? God would have you work for it. He would have you live in such a way as to keep it, if you have it; and to regain it if you have been so unfortunate as to have lost it. As a public servant the health officer should make use of the talents he possesses in proclaiming the gospel of rightful living to all the people, a knowledge of which within itself makes plain the secret of good health, happiness and a useful life.

While one may meet with political opposition occasionally, selfishness is quite common among individuals and frequently interferes with gathering information necessary to successfully combat contagion and prevent the spread of infection. Persons having a contagious disease in the home, with no physician in attendance, withhold the fact from the officer; others having the disease with a doctor in charge endeavor to bribe the physician in attendance to withhold a report, on the pretense that they will stay in and keep others out. In too many instances, the medical man gives in and favors his patron and thereby permits contagion to spread. On the other hand, the health officer has been known to fail to investigate when he has information, offering as an excuse that no report was received. The fact of the matter is that, in conducting the office of deputy state commissioner of health, like that of sheriff, prosecuting attorney and many others, little will be accomplished if the officer sits in his office and moves only when he receives a punch from without. His duty is to get out, remain awake while out, and investigate much which is not reported to him, for the control of contagious diseases through placarding and quarantine is but a small part of the duties of the health officer. He should be ever alert to his duties as guardian of the public health, and his work consists of visiting the homes where may be found insanitary surroundings, as well as those homes wherein exists disease of a contagious nature, and make known to the inhabitants the better way to take care of the situation.

Having learned that existing things are not as they should be he is then in a position to call together his assistants and direct them in the way the work should be done. He need not be a detective in the sense the term is commonly used, as there is no secrecy about his investigation, and he is not required to go about work under cover. He should be, and may be, manly, not necessarily a sneak. If a man, he will do his duty. He should know his duty without being told. The rules and regulations of the state board of health set forth what should be done and he should know his stuff—he be qualified for the undertaking—before being

entrusted with the work. He should make no exceptions to the rule, for if it has any exception it does not remain a rule. Favoritism has destroyed many a good rule with the result that many "get by" who should not. Showing favor may result in death entering homes and destroying the occupants and bring about epidemics of great magnitude with the loss of many lives.

That one may be enabled to meet the requirement for full time or even part time health officer he should be an executive in spirit and in truth. He should be able to command others and so direct them in the work that system and regularity go on and the work be accomplished without loss of time and useless expense, guarding public funds as well as public health. Health is wealth. Money wisely used in directing the work of preventing disease, or the conservation of health, is the best investment of public funds.

The health officer should not only be an executive of reasonable ability but a good fellow as well. He should possess a knowledge of diplomacy and go about his work cheerfully as he visits each home. By inspirational talks and uplifting examples, he should convince the householder of his earnestness in his work and thereby gain the confidence and cooperation of the ones he visits. By these means he can cause them to rejoice in the fact that the health officer was called.

It should be his purpose to lift his clients from the mire of despond but he cannot do so by entering the home garbed in black, with his chin hanging below his collar and a frown on his face. He should be cheerful and radiate sunshine as he enters the home and strive to make known the better way to care for those desperately ill from diphtheria or other contagious disease. A sloth never gets any place as a health officer. That is right—he should not. In fact, he should not exist. Knowing a thing should be done, do it. At least do your best to accomplish what you undertake and do not falter in well doing. Old Davy Crockett's motto in dealing with the primitive Americans has application in dealing with the classes of today: "Be sure you are right then go ahead." Don't vacillate, meet all conditions squarely and do not hesitate to perform your duty. You may displease a few by so doing but you gain the confidence and respect of the majority.

Be more than an individual—be a personality. We have been told that personality is made up of three attributes: Consciousness, character and will. You may have character and be conscious of the fact that you should do your duty, but if you lack the will to "go to it," you remain an individual but not a personality. In a sense, if you have not will power to do

your duty as health officer you are *not* the *person* for the place. So with every calling; without will power you waver with every little breeze that springs up; your course will be anything but straight and you may travel much and get nowhere.

Having taken on myself the responsibility of naming some of the requirements for one who would head a health unit, it yet remains for me to set forth some of the duties of a unit. The things I detail in my "words of cheer" have come to me through study during my service as a health officer, and through personal contact with individuals whom I have met in my endeavor to advance the cause of public health while conducting the office as deputy state commissioner of health.

Having stated in the beginning that the field for work of the health officer knows no bounds, offering an opportunity in many directions for the advancement of the cause for public welfare, I would have him make use of all agencies at his command to the end that all members composing the unit work towards a goal that means better environments, better living conditions and better thinking, so that all persons improve morally, spiritually, physically and intellectually and thereby enjoy life more fully, and when they do die, die happier.

When quarantine should be done, I would have him quarantine; when isolation becomes necessary, isolate; and when it becomes necessary to clean up the premises where contagious or other disease existed see that it is done thoroughly before release is permitted. You may imagine that you are doing some one a favor when you fail in some instances to attend to the duties just mentioned; if so you are mistaken. You are doing your duty to all when you comply with the regulations set forth by the state board of health.

Much harm results from the promiscuous use of ready-made medicines (patent, proprietary, etc.) found on the general market, and the perpetual suggestion that to remain well, or get well, one should be constantly dosing, when the fact of the matter is that just the opposite is true. The health officer and his assistants may do much by informing the public of the fallacy of constant drugging with remedies of the uncertain composition, and the danger of forming habits detrimental to health. Many so called remedies are habit forming, or simply "bracers" (stimulants) or "nervines" which may make one feel good while taking them, at the same time undermining his health and hastening his exit. As it is the purpose of the health officer to safeguard the health of the public it becomes his duty to make known the danger of using drugs indiscriminately, as well as the fact that the germs of diphtheria and

typhoid kill. It is just as important that the head of a unit have knowledge of toxicology as well as a knowledge of toxemia, epidemiology, sanitation, symptomatology and medical social work, to properly conduct the affairs of his office. A knowledge of poisons is of more value than knowing the weight and measurement of every individual in a county. Given a knowledge of the environment of an individual, the functioning of his organs and his economical state, the health officer should be enabled to get along very well without scales or tape. How is he to get the information? Visit the home and obtain it first hand. You may say: "A big job." Yes, the health officer has a big job and should be a "big" man. Too many "little men" are given the job and too little is being accomplished. Is the work important? Any "big" man with a big heart, who loves the truth, will answer in the affirmative.

With a knowledge of preventive medicine as it exists today, if there is failure on the part of the full time health officer to make proper showing commensurate with the funds expended in the work, it is for lack of efficiency on his part, laziness or unwillingness to do what the state board of health sets forth should be done, viz: Visit all sources of infection and destroy the agency when possible, or do his best to control it, and keep the board and public advised of the existence of contagion, as well as make use of other means known to prevent disease. The state board of health depends on the head of the unit to supply information and if he fails to do his duty in the field, to such an extent does the board fail to function in the locality where exists the inactive unit.

It requires no education and little wisdom to hand out cards and pamphlets supplied for free distribution under the guise of "good health literature," at the same time carrying the advertisement of the donors. While in some instances the stuff put out is good and may, in some degree, advance the cause of public health, it fails to carry the weight of a personal talk by one qualified for delivering a message of good cheer, capable of observing the surroundings in the home he visits, and ready to offer friendly advice to those in need thereof. Few read the literature and much of it is discarded at once, finding a landing in the waste basket or stove. But a heart-to-heart talk with an enlightened individual finds a place and makes a lasting impression.

The motto for the health officer should be: "Do it yourself." In quoting one who has done things, Franklin, "If you would have your business done, go; if not, send," you are reminded of the proper course to follow. Do it yourself does not signify that you shall in every instance do all there is to be done, but as head

of the unit it becomes your duty to direct all agencies connected therewith and see to it that each one working under your direction does the work assigned, and does it thoroughly.

It would require a large volume to set forth even an outline of the work required of one who would successfully conduct a campaign for good health. The knowledge does not come to one by appointment. It requires years of preparation by study and experience. As the science of preventive medicine has been years in developing, so it requires time to acquire knowledge sufficient to be enabled to direct the work of a county health unit.

As we have it from J. G. Holland:

"God give us men. The time demands
Strong minds, great hearts, true faith and willing
hands;

Men whom the lust of office does not kill;
Men whom the spoils of office cannot buy;
Men who possess opinions and a will;
Men who have honor; men who will not lie;
Men who can stand before the demagogue
And dam his treacherous flatteries without winking;
Tall men uncrowned, who live above the fog
In public duty and private thinking."

And we may add:

Men with personality so strong
Not to be led astray by a paltry throng.

BEDSIDE STUDY OF AIR HUNGER

By air hunger is meant the subjective experience of air want. Dyspnea, tachypnea, hyperpnea and cyanosis are attendant phenomena and can be evaluated by objective observation, but the feeling of air hunger is what alarms the patient and leads him to seek medical aid. The physician is called for a single reason and that is to relieve air hunger, a subjective symptom that always is alarming to the patient. According to C. F. Hoover, Cleveland (*Journal A. M. A.*, Sept. 11, 1926), the symptom may be due to a misinterpretation of a nervous experience that very commonly plagues introspective persons, although their internal and external respiration is quite normal. Genuine air hunger may originate from disturbances in the nerve supply to the lung; or there may be disturbances in the cardiorespiratory function, or internal respiration may be disturbed by alteration of the chemical composition of the blood or by disturbances in the lymph or blood supply to the respiratory center. The most common exhibition of air hunger is associated with cardiorespiratory disease, and as the cardiac and respiratory functions are interdependent, the first problem is to learn how much each may share in producing the symptom. Obviously, if air hunger is due to pulmonary stasis, cardiac stimulation is indicated. If lung ventilation is at fault, the problem is different. Hoover disease which in two cases was associated with unseen six cases, occurring in the course of mediastinal disease which in two cases was associated with unmistakable syphilitic disease and syphilitic aortitis. Two were cases in which either syphilis or tuberculous disease was the cause, as both diseases were present, and two patients were tuberculous. The attacks in one patient were always associated with bradycardia. (2) Paroxysmal hyperpnea of which

he has seen only one case; slumber apnea and waking hyperpnea; cardiovascular disease and myxedema. There is an interesting relation between air hunger and retention of body fluids that is sometimes seen in chronic cardiovascular disease. Improvement follows the use of some digitalis or theobromine preparation, and as the dropsy recedes the cardiectasis diminishes and the rate and volume of the pulse improve. But there are cases in which digitalis and caffeine in large doses are ineffectual, but with the administration of merbaphen (novasulrol) by the intravenous method the dropsy recedes, air hunger ceases, and the pulse pressure, heart rate and size of the heart's chambers are unchanged.

STANDARDIZATION OF SCARLET FEVER ANTISTREPTOCOCCUS SERUMS

With sixteen serums intended for therapeutic use, confirmatory tests were made by A. B. Wadsworth, Mary B. Kirkbride and Mary W. Wheeler, Albany, N. Y. (*Journal A. M. A.*, Aug. 28, 1926), on satisfactory human subjects. The titer of these serums, as determined by tests on human subjects and on goats, was practically the same in each case, with one exception. The titer of this one serum was slightly lower by the test on the goat than by that on the human subject. As a result of these studies, a procedure for the standardization of scarlet fever antistreptococcus serums on the goat has been developed, which appears to offer a more accurate, uniform, reliable and practical method of titration than do either of the methods on human subjects. The method consists of comparative tests of the test serums with a standard serum against a test dose of a standard toxin, made, at the same time, on the same animal under carefully controlled conditions. To determine the potency of test serums, varying doses of serum combined with a test dose of standard toxin are injected, in 0.1 cc. amounts, intracutaneously into goats, control tests being made at the same time with mixtures of the standard serum and standard toxin, and with standard toxin, heated and unheated, and with uninoculated toxin broth and serum alone. Tests on trial bleedings and preliminary tests of whole bleedings are usually made on one animal only. Serums to be distributed for therapeutic use are tested on at least two animals, and the results are controlled, from time to time, on human subjects. The estimated potency of the test serum is based on the mixture of serum and toxin that induces a reaction slightly less than, or equal to, that induced by the mixture containing the test dose of standard serum ($1/100$ unit). At least one dilution of the test serum should completely neutralize the toxin. Comparative titrations with the same serum against the Dochez standard toxin and against the U. S. Hygienic Laboratory Dick toxin have given similar results. However, much lower dilutions of the Dick toxin are usually required, since it appears to be less potent on the goat.

DIAGNOSTIC CRITERIA OF MALIGNANT DISEASE IN UPPER RIGHT QUADRANT

The upper right quadrant of the abdomen M. L. Graves, Houston, Tex. (*Journal A. M. A.*, Sept. 11, 1926), states, contains no less than twelve important organs and tissues, and is the most interesting and difficult of the abdominal divisions. They are: the stomach, the liver and bile passages, the gallbladder, the pancreas and the colon. The signs and symptoms of malignant disease of each of these structures are discussed.

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EDITORIALS

NEUROLOGICAL SURGERY

The fourteenth meeting of the Society of Neurological Surgeons was held in St. Louis, December 10 and 11. The program, which took two days to complete, was made up of a broad and often intimate survey of problems centering around the surgical therapy of the nervous system. Apart from the purely technical aspects of the operative demonstrations, the list of papers might well have been that of a neuropsychiatric group intent upon seeking information concerning the nervous system as a whole. It is this combination of physiological and therapeutic attitude which identifies this group and it is this interest in the nervous system and its essential problems which warrants the comments that follow.

In 1918 the first professorship of neurological surgery in this country was established at Washington University. The Chairman of the St. Louis meeting of the Society of Neurological Surgeons, Dr. Ernest Sachs, was its first incumbent. Before that time, however, there were at least three surgical department heads in this country who were devoting themselves primarily to this specialty. The development of neurosurgery into an established specialty is one of the outstanding achievements of Dr. Harvey Cushing. Its initial impulse, its interesting growth, and its university recognition are largely the result of the impetus given by his inspiring sponsorship. It is a rare privilege to observe the beginnings and growth of a new specialty and it is a rare opportunity to see a specialty win its own place and find its own way and succeed in academic recognition. In less than ten years surgery of the nervous system has done this. It is a matter of interest to find out why this should have happened. In the pioneer phase the surgeon was purely an operator, transferring his technical resources gained in other fields to that of the nervous system. Here and there was a surgeon who knew something of the fundamentals of the territory in which he was operating, but for the most part he worked as the therapeutic arm of the neurologist by whom he was guided both as to indications and operative limitations. It is clear that a specialty simply made up of techni-

cal cleverness and manipulative skill could not and should not develop. As long as the neurological surgeon was only a surgeon it did not. Victor Horsley appears to have been the first who attempted to know by experiment and by clinical observation something about the physiology of the structures upon which he was operating. Cushing more than any one before united a knowledge of the nervous system, both in its pathological and clinical sense, with surgical skill. It was that combination which laid the foundation for the specialty which in St. Louis in its meeting so ably and interestingly demonstrated its right to existence and recognition.

With the development of neurological surgery as a specialty and with the growth and spreading influence of the group of 25 or 30 men whose activities extend to almost all the important medical centers of this country, two questions might well be asked. What service has neurological surgery rendered to medicine and in what way might its future activities be best employed? The establishment of a new specialty implies the concentration and intensification of effort towards the study of variations of function caused by disease and in this instance the surgical problems which arise. The various conditions for which surgical procedures are indicated become then the focus toward which attention is directed. The first thing that strikes the observer in contemplating the field that has been thus opened, is the increase in the number of cases in which the cranial cavity has been opened for exploration and treatment. The gross appearance of the brain in this way can be demonstrated under the stress of pathological changes in so large a variety of cases that a mass of information hitherto lacking is gradually being supplied. The observational data collected in this way are the living realities of disease. This has taken the place of information which could only be gathered by observing autopsy material. To those who have been given the opportunity of seeing conditions of this sort in a great many instances an entirely new point of view and an entirely new aspect of the nervous system as a living and functioning organism has been obtained. This has led to a refinement in observational diagnosis so that the human cortex merely from the standpoint of what is to be seen there has become a territory with which almost every neurologist can now become more and more familiar. There is thus furnished an opportunity toward the first step in a complete recognition of a disease process, and it is this step which is always necessary for further and more intensive study of the pathological conditions in the living. Before the advent of neurological surgery and before the develop-

ment of the technical procedures, for which the neurological group in this country as far as one can see is mainly responsible, the opportunity to observe the brain in the living was comparatively rare. The enormous growth of the material upon which observation of this kind can now be made is one of the most outstanding achievements of the Society of Neurological Surgeons. The interpretation of mass observation of this kind into symptomatic suspicion of a lesion is coming to be more and more common. It is now possible to visualize with some approach to accuracy the effects of intracranial pressure, variations from the normal in appearance of destructive processes in various portions of the brain and the distant effects of definite lesions in the production of symptoms and in the interpretation of actual neurological findings. The enrichment of neurological knowledge as a consequence of pure observation in the living is a fact of great significance.

By virtue of the constant improvement and standardizing in operative technic, in general anesthesia, and the constantly growing use of local anesthesia, the cranial cavity is being explored with more and more boldness. Not only is this true as far as the surface of the brain is concerned, but exploration into the ventricles, cavities, and other recesses which before were not thought explorable is now carried out. One of the most immediate results of the adventuring into hitherto unapproachable portions of the cranial spaces has been the sharpening of diagnostic scrutiny in neurological conditions. Given the opportunity of exploration in suspected cases of tumor or abscess together with the knowledge that the mortality in such explorations is constantly being lowered, the neurologist is becoming more and more accustomed to try to see what is occurring rather than to speculate on what the conditions may be after death. In the long run this means earlier diagnosis and prompter operation, which makes for the removal of pathological lesions before the cerebral tissue has been damaged beyond repair. The chance for functional restoration becomes a possibility and not merely a vague hope. The early diagnosis of brain tumor, which has been the chief aim of neurologists, is now being slowly brought about through the ease with which the neurosurgical phase of this condition can be carried out. As there is no other treatment for brain tumor than surgical removal, the problem readily resolves into one of diagnosis and localization and there has been a definite and easily observable sharpening of the diagnostic ability of neurologists in regard to the very earliest manifestations produced by tumors. A similar thing must have happened in the early evolution and development of ab-

dominal surgery which probably had the same effect upon the diagnostic skill of internists and surgeons as is now the case with neurologists and neurologic surgeons.

A wealth of new information has grown up about the subject of tumor types and tumor differentiation. The care with which the question of malignancy is studied, and the various differentiation of tissue changes that are now in vogue in the laboratories associated with the activities of both neurologists and neurological surgeons is worthy of comment. A glance at the recent publications on this subject alone shows a remarkable change in view in regard to even such a common neoplasm as glioma. Formerly this was regarded as a malignant growth. There are now many varieties of this condition, some of which can be removed without danger of recurrence, some of which are only partially malignant, and some of which are always so. It has become even possible in some cases to make a decision as to the malignancy of the growth by the appearance and localization of the tumor. The mortality rate in the hands of the neurosurgical group has shown a constant tendency to become lower even in the face of more venturesome surgical procedures. This fact is particularly encouraging, because along with the improvement in technical resources and with the increase in the number of conventional operations on the brain, the neurological surgeon is reaching out into more and more dangerous territory. In the latter phase of his activity the mortality is bound to be high and yet notwithstanding this the total mortality is constantly being lowered. The fear of operative death which has stood so frequently in the way of logical procedures in brain tumor, for example, is now becoming slowly dissipated and in most of the cases, except in the more advanced and those dealing with absolute malignancy, operation is not only promptly done when a diagnosis is once made, but the cooperation of the patient is more readily obtained. This means, if it means anything, that through the activities of the neurological group a more just estimation of what can be done for these cases is slowly infiltrating among the people. How much greater the decrease in mortality may be expected depends very largely on the problem of early diagnosis. It is one of the main objectives of the neurosurgical group to intensify the interest in this part of the subject in the hands of those who have an opportunity to see cases of this sort first, that is, the general practitioner.

The contributions to the physiology and anatomy of the nervous system which have been brought about by the grouping together of men who are in this field has been important. Already problems of a fundamental sort have be-

come a part of the program for investigation. The neurosurgical group who work in the field of experimental investigation on the nervous system find already at hand a skilful and competent technic. This is so because they have been accustomed to work with great delicacy and care in the human being. The transferring of this same technical delicacy to animal experimentation has resulted in observations of great value, and there is little doubt that observations of this sort will lead increasingly to a better understanding of the physiological questions involved in the mechanism of the central nervous system.

It is somewhat difficult to forecast the future contributions of such enthusiastic, well trained, and vitally interested men in a specialty that is still in process of growing. Whether the development will be solely along improvement in technical procedures or in technical consideration of diagnosis is hard to decide. At the present at any rate it appears that a great advance in technical skill can scarcely be expected. The surgical manipulation in the hands of these men has already become so delicate and careful an achievement that it is almost impossible to imagine anything better. To an observer, however, at an operation on the brain the thought constantly presents itself in regard to the length of time which the mechanical difficulties of opening the skull imply. If a method could be devised by which this part of the operation could be shortened and if the necessary manipulation for the preservation of brain tissue could be done more rapidly and at the same time just as safely, the mortality rate could be considerably lowered. There is probably a need for some completely novel method of technical procedure to take the place of what is being done now, and there is no reason why the imaginative resources of the neurological group should not some time or other meet even such an ideal demand.

It is only recently that the neurological surgeon has become interested and concerned with the greatest of the functions of the structure with which he is concerned operatively, that is, consciousness. The neurological surgeon now is rapidly becoming as much interested in what the brain does as what it looks like. In other words the most important and the unique function of the brain is now slowly awakening his interest. He is no longer detaching the human brain from the human subject and is beginning to be somewhat interested in the man himself in order to see whether some of the earliest changes in the lesions which he is called upon to diagnose and to operate may not be shown by slight alterations in conduct, minor changes in personality, slight decrease and change in intellectual activities, alertness, etc. In fact the

neurological surgeon is becoming without himself being aware of it a better neurologist.

The Society of Neurological Surgeons has shown by its interest and concern with the total problem of the nervous system that the surgeon must be intimately and personally acquainted with deviations from the normal in the territory in which he is exercising his manipulative skill as a therapist. The meeting of the neurological surgeons is therefore significant in indicating that there is now in existence a small group of neurologically and physiologically trained surgeons who are not only interested in the removal of brain tumors and other lesions of the central nervous system, but who have become concerned with all the problems that arise out of its disordered and abnormal functioning. This meeting therefore gives an opportunity to suggest that a better acquaintance on the part of the internists and general surgeons is essential so that the progress which in so short a time has been made by the Society in Neurological Surgeons may be more widely known and more intimately appreciated.

READY

The 54th General Assembly which convenes at Jefferson City January 5, will hold more than ordinary interest for the medical profession because the occasion seems unusually propitious for the passage of important amendments to the medical practice act. Forecasting the final attitude of members of the legislature toward any bill is of course an idle pastime. No matter how meritorious a measure may appear to be when introduced, one must not forget that every member of the legislature has numberless questions to consider during the 70 days of strenuous life at the capital which oftentimes change what in the beginning seemed a simple proposition into a complex problem.

We hope our bills will escape these complicated processes for we have injected into them the immunizing vaccines developed from the toxic experiences of past years. With a specific exemption of those who practice the healing art by spiritual means or prayer we shall not encounter the opposition to our bills that has hitherto seriously interfered with their passage. With the medical diploma mills moribund if not quite dead, we can ask the legislature to restore the provision, rescinded in 1907, to establish reciprocity with other states and thus give Missouri physicians equal opportunities with medical practitioners throughout the country; with the knowledge generally current among the people that the unlicensed person masquerading as a physician is a menace to a community we can ask the legislature to give the board of health the right to initiate the prosecution of persons who practice medicine without a license.

These are some of the important alterations we are asking the legislature to make in our law. A brief summary of the amendments follows:

1. To restore the privilege of establishing reciprocity with other state examining boards.

2. To empower the state board of health to initiate proceedings against persons practicing medicine without a license.

3. To require persons seeking a license to practice medicine to show that they have attended four full terms of nine months each at a reputable medical school that enforces the four terms of nine months each.

4. To require applicants for a license to obtain an average of 75 per cent. of all subjects examined on and not fall below 50 per cent. on any one subject.

5. To permit the state board of health at its discretion to accept the certificate of the National Board of Medical Examiners in lieu of its own examination.

6. To exempt from the provisions of the act persons who endeavor to cure or prevent diseases by spiritual means or prayer.

7. To penalize medical schools who issue or permit the issuance of a diploma to any person not having attended at least 80 per cent. of each of the four school years and to penalize any person who receives a diploma from any medical school without having attended at least 80 per cent. of each of the four years.

In addition to the bills that will be introduced at our request, there are other bills affecting the practice of medicine and public health to be sponsored by other organizations. Among these are the bills prepared by the Missouri Association for Criminal Justice chief of which from the standpoint of the medical profession is one to regulate expert medical testimony in criminal trials and establish a department of mental diseases, using the present organization of state hospitals as a framework.

Bills to be introduced by us were published in our issue for September, 1926, and will be republished in our February issue when we can give the numbers of the bills and their text as finally prepared.

We hope every member of our Association will interest himself in the provisions of these bills and use his best endeavors with representatives and senators to encourage the passage of the measures.

THE PRESS AND THE TRUTH ABOUT MEDICINE

The attitude of the daily press toward announcements in their news columns of discoveries or so called discoveries for the alleviation and cure of diseases has undergone a radical change during the past few years. Until quite recently, newspapers published such stories in toto without investigation if the source was not frankly tainted with fraud. Witness the Friedman tuberculosis craze just a few years ago, to mention one instance. Today, however, almost every reputable daily

newspaper attempts some sort of supervision over these announcements before publishing them, but few we regret to say have established the rigid control over them which their importance demands. The absence of such supervision by the press of Missouri, with one conspicuous exception, was exemplified within the past few weeks by the publication on different occasions of three separate stories announcing cures for three different scourges of mankind. One of these stories emanated from New York and Canada and assured the people that the cause of cancer had been discovered and its cure and prevention worked out. Another story, apparently cabled from Geneva, Switzerland, gave glowing accounts of a remarkably effective treatment of tuberculosis, claiming 80 per cent. of improvement. The third story, stamped with even higher authority than the other two, was startling in its positive assurance that drug addicts could be cured in a short period of time.

All these stories carried to those living in the world of abandoned hopes the cruelly false ray that would lead them into enormous expense if they sought, as they always do seek, the benefits of the so called discovery, only to be flung back more discouraged, more hopeless, more abandoned than before.

The exception we noted above was the St. Louis *Post-Dispatch* which declined the publication of the cancer article from New York and the narcosan article on the cure of drug addicts. It did run the tuberculosis story.

How does the *Post-Dispatch* guard its columns against this abuse? The answer is very simple—the policy of not publishing stories on the cure of disease until such stories have the confirmation of recognized medical authority in St. Louis. The *Post-Dispatch* had the story about the cure of cancer, which we may say was a copyrighted story issued by a reputable newspaper agency, but inquiry failed to elicit the approval of recognized cancer authorities in St. Louis; it had the narcosan story, which was stamped with the authority of a former president of the American Medical Association and of a reputable neurologist, but did not have the approval of the American Medical Association. The *Post-Dispatch* promptly killed both stories. It published the story of the Spahlinger treatment of tuberculosis which was sponsored by a trustworthy correspondent of the *Chicago Daily News*, a paper that exercises the strictest supervision of medical articles.

We congratulate the St. Louis *Post-Dispatch* on its intelligent supervision of news stories calculated to arouse false hopes among those unfortunate persons who have not the eyes to

see nor the ears to hear the truth and therefore eagerly seize every thread of hope that is dangled before them no matter how treacherous, and for that newspaper's confidence in the integrity and intelligence of the leaders of medicine in St. Louis, all of whom are members of the Missouri State Medical Association and its component societies.

CANCER WEEK, JANUARY 17-26

During the month of January, 1927, The American Society for the Control of Cancer will stage an intensive educational campaign throughout the State of Missouri. The headquarters of the National Society are located in New York City with a paid director who coordinates the work of education throughout the country. Since its organization in 1914, campaigns to educate the laity to pay attention to what to them might appear to be insignificant signs, have been staged, impressing upon them the importance of consulting a competent physician to decide whether these apparently insignificant signs may not be the beginning of cancer.

Among the methods of publicity which have proven of value, are: placards prominently displayed, talks by medical men wherever audiences can be gathered, such as women's clubs, men's clubs, churches, etc., the showing of moving pictures and the distribution of pamphlets which carry the so called "danger signals" of cancer home to the reader in plain language.

Not the least important part of the work of The Society for the Control of Cancer is concerned with the education of the physician. This work not only pertains to what has already been done in the past, but also to keep the physician abreast of the times, as it were, by assembling the experimental data from all the world and to obtain a proper evaluation of its merits as applied to the human race. For instance, last September at Lake Mohonk, New York, through the efforts and under the auspices of The American Society for the Control of Cancer, leading surgeons, pathologists, and laboratory workers were assembled for a three days conference where the only subject discussed was cancer. In this way the ideas prevalent in the different countries as to the best way to combat this disease were freely discussed as to their relative merits. The question of heredity in cancer was thoroughly thrashed out and the rich field of experimental work was explored and the facts derived therefrom correlated.

The consensus of opinion of the leaders in the study of this disease and the opinion concurred with by The American Society for the Control of Cancer is that the only therapeutic

agents in the treatment of cancer which are of proven value are, surgery, X-ray and radium. It is also pointed out by the Society that while the intensive study now going on in various laboratories all over the world to discover the cause of cancer is of great importance we will not necessarily at once improve our methods of treatment even if the cause is discovered.

It has been proven time and time again that the mortality rate from cancer can be materially decreased if cancer can be diagnosed early and methods of treatment of proven value can be instituted promptly by a physician thoroughly qualified to treat cancer. In cancer of the breast, for instance, today in a large hospital in New York City only 50 in 100 cases which apply for treatment are found operable when they apply, and only 15 of these 50 are cured by operation. It is conservatively estimated that had all of these same 100 cases applied when the patients first noticed a lump in the breast at least 75 could have been cured.

Therefore, it seems well worth while to institute such intensive campaigns as will be staged throughout the State of Missouri the week of January 17 to 26, inclusive.

The headquarters for the state-wide campaign will be located in Saint Louis, at the Barnard Free Skin and Cancer Hospital, 3427 Washington Avenue. Local chairmen in each county of the state will be appointed and the entire work of publicity carried along through well established channels.

The St. Louis Medical Society will devote the entire evening of its regular meeting on Tuesday, January 18, to the discussion of cancer. One or more of the executive officers of the American Society for the Control of Cancer will speak at this meeting. Members of the profession and others interested in cancer work are cordially invited to attend.

Physicians desiring to cooperate in this movement will be welcomed and helpful literature distributed either from the Saint Louis headquarters or from the headquarters of the National Society, 25 West 43rd Street, New York City.

POSTGRADUATE INSTRUCTION AT ST. LOUIS

In this issue we are carrying the announcement by the St. Louis Clinics of a postgraduate course in internal medicine. This is in line with the announced purpose of the Clinics, namely, to foster postgraduate instruction in various branches of medicine. As may be seen from announcement, this course is broad in scope and it can be safely assumed that the personnel of the clinicians will be of the highest type.

An enormous amount of work is required in order to correlate the instruction which will be given in such a comprehensive course and to arrange a schedule which will assure maximum convenience and interest to those physicians who register for the course. It is the intention of the St. Louis Clinics to give these intensive courses of instruction to postgraduate students at regular three or four month intervals so that in the course of a year every specialty of medicine may be covered.

It is hoped that enough interest will be shown by the number of registrants to encourage the Clinics to continue their efforts and to give their time to spreading knowledge and up-to-date information to their colleagues who have not the advantage of residence in one of the larger medical centers. The St. Louis Clinics are to be congratulated upon their enterprise in offering such an opportunity to the physicians of the state.

THE LEGAL ASPECTS OF PSYCHIATRY

The Committee of the American Psychiatric Association on The Legal Aspects of Psychiatry presented its report as of June 10, 1926. The report recognizes "the prevalent concepts of tradition and long usage" which present obstacles to the psychiatric approach to the problems of crime and criminals. The age-long matter of responsibility is discussed—"according to the law, all persons of certain categories possess absolute freedom of will and all persons of other categories possess none." "Neither science nor philosophy can accept such a conclusion."

The report looks upon the Massachusetts law of 1921 as a very practical step. Here in Missouri, with 3000 felonies in St. Louis alone, we feel that we have neither the money nor the personnel to administer such a law.

The report very properly urges a continuance of the work by the American Psychiatric Association in association with the American Bar Association, the National Research Council and the American Prison Association.

In discussing the position of the Psychiatric Association in relation to the whole field of human behavior, the report concludes that certain radical changes are essential in penal practice, namely:

- (a) The substitution of the idea of treatment, painful or otherwise, for the idea of retributive punishment.
- (b) The release of prisoners upon parole or discharge only after complete and competent psychiatric examination with findings favorable for successful rehabilitation, to which end the desirability of resident psychiatrists in all penal institutions is obvious.
- (c) The permanent legal detention of the incurably inadequate, incompetent, and antisocial, irrespective of the particular offense committed.
- (d) The development of the assets of this perma-

nently custodial group to the point of maximum usefulness within the prison milieu, industrializing those amenable to supervised employment, and applying their legitimate earnings to the reimbursement of the state for their care and maintenance, to the support of their dependent relatives, and to the reimbursement of the parties injured by their criminal activities.

That effective preventive medicine is applicable in the field of psychiatry in the form of mental health conferences and examinations, child guidance clinics, mental hygiene clinics, lectures and literature, and similar institutions and efforts.

That the protection outlined provides an efficient and scientific solution to the problems of crime, viz:

- (a) The protection of society.
- (b) The rehabilitation of the "criminal" if possible.
- (c) His safe and useful disposition or detention if rehabilitation is impossible.
- (d) The detection and the prevention or deflection of the development of criminality in those potentially predisposed.

The report is signed by men who stand foremost in the field in this county.

It is by repeated efforts of this kind that we shall arrive eventually at a more general understanding of the scientific aspects of these very human problems. We may bewail the talion law but it is likely to prevail in many communities and among many people in every community long after the present generation of psychiatrists are all dead. But we have made and are making headway in our efforts to educate those in other fields to give heed to the psychiatric concept of human misbehavior.

NEWS NOTES

Dr. Edwin C. Ernst, St. Louis, was elected President of the Radiological Society of North America, at the annual meeting held in Milwaukee December 1-3.

Dr. J. Curtis Lyter, St. Louis, will address the Waterloo Medical Society, Waterloo, Illinois, January 19, on "Some Aspects of Cardiovascular Mechanisms in Chronic Pulmonary Emphysema."

Dr. Herman E. Bundesen, Health Commissioner of Chicago, and Dr. Hoyt E. Dearholt, of the University of Wisconsin, were visitors in St. Louis November 30 the guests of the St. Louis Tuberculosis Society.

Mr. Victor S. Holm, the sculptor who is connected with the School of Fine Arts of Washington University, has presented to the St. Louis Medical Society a bronze plaque of the portrait medallion of Dr. James Moores Ball which has been hung on the walls of the library in the new building of the society. Dr. Ball,

Dr. Amand Ravold and the late Dr. Frank J. Lutz were the founders of the St. Louis Medical Library. A bronze plaque of Dr. Lutz made by Clara Pfiefer Carrett was presented to the Society in 1915 by some of the members and now hangs in the new library. It is hoped that Dr. Ravold's medallion may be placed therein.

Louis S. Siegfried, chiropractor of Brooklyn, N. Y., disapproves of compulsory vaccination for public school children. When his 8-year old daughter was ejected from school because of his refusal to have her vaccinated he spent two days in jail rather than pay a \$2 fine, taking this method of protesting against compulsory vaccination.

On February 7 examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at Washington, Chicago, New Orleans, and San Francisco. Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

St. Luke's Hospital, St. Louis, has just completed the addition of a clinic pavilion to the hospital, the gift of Mr. Edward Mallinckrodt, president of the board of managers of the hospital. The clinic pavilion has a number of rooms for out-patient work and will house the social service section, the occupational therapy work shop and clinic rooms for medical, surgical and eye, ear and throat conditions. It will also contain offices for Dr. H. G. Mudd, Chief of Staff, and others connected with the staff. The furnishings were provided by gifts from Mrs. Newton Wilson and the late Mrs. Fannie Carr.

The poor of St. Louis who cannot afford to pay for blood transfusions will hereafter be provided with suitable blood when needed, by the generous offer of 310 medical and dental students of the St. Louis University.

On December 20 a request was made of the students to volunteer as donors of blood at the accepted rate of \$50 for a one pint transfusion. Three days later the students waited upon Dean Hanau Loeb and presented their offer to donate the blood gratuitously. The offer is limited to free patients at the St. Louis City Hospital and those hospitals associated with the St. Louis University—St. Mary's Hospital, St. Mary's Infirmary, Mt. St. Rose Sanatorium, St. John's Hospital, St. Anthony's Hospital and Alexian Brothers' Hospital.

H. M. Stunz, proprietor of the Melton Laboratories in Kansas City, makers of fake medi-

cines, was convicted November 20 of using the mails to defraud. He was sentenced to two years in the penitentiary and fined \$10,000 by Judge Merrill E. Otis. This is the result of the federal government campaign against quack medicine makers in Kansas City. It is to be followed by vigorous prosecution of other concerns.

The Melton Laboratories, it is said, made and sold medicines called "Korex," "Renex" and "Hiobin." According to the advertising matter put out the concoctions were "great discoveries compounded after long years of research by noted chemists" and their supposed properties were heralded as revitalizers of powers that had waned with age. The government witnesses declared the drugs were useless for any purpose, one physician testifying that a bread and sugar pill would be quite as effective as the Stunz pills.

Judge Otis, in discussing the case before passing sentence, criticized those newspapers which permitted insertion of advertisements of products that generally are regarded as useless and having little merit.

The sum of \$100,000 has been offered as a prize for the discovery of the cause and cure of cancer by Mr. William Lawrence Saunders, New York. This announcement was made at a dinner given in the interests of the American Society for the Control of Cancer by Nicholas Murray Butler, president of Columbia University and Honorable Charles Evans Hughes. Mr. Saunders is chairman of the board of directors of the Ingersoll-Rand Company, director of the Federal Reserve Bank of New York and president of the United Engineering Company. The prize is divided into two sums, one of \$50,000 to any person or group of persons who may discover the cause of cancer and how it can be prevented and another prize of \$50,000 to any person or group of persons who may discover an absolute cure for cancer. The entire sum of \$100,000 may be given to the same person or group of persons. The decision upon which these awards shall be made is to be determined by the American Society for the Control of Cancer and approved by the American Medical Association and the American College of Surgeons. The offer is to stand for a period of three years but may be extended.

The Contact Committees of the American Drug Manufacturers' Association and the American Pharmaceutical Manufacturers' Association have submitted recommendations on the degree of accuracy for several hypodermic tablets not included in their former report on this subject, according to a recent statement issued by the Bureau of Chemistry, United

States Department of Agriculture, which is charged with the enforcement of the Federal Food and Drugs Act. Because of the importance of such tablets and the emergency conditions under which they are often used the manufacturers of the tablets and the officials in charge of the enforcement of the Federal Food and Drugs Act feel that the tablets should be made with the greatest accuracy possible under the most approved modern methods.

Recommendations are made for the degree of accuracy in the following hypodermic tablets: Codeine phosphate, pilocarpine hydrochloride, caffeine and sodium benzoate, caffeine, apomorphine hydrochloride, hyoscyne hydrobromide, procaine, morphine and atropine, physostigmine sulphate, physostigmine salicylate, corrosive sublimate and arecoline hydrobromide. The Committee has withdrawn its former recommendations on atropine sulphate hypodermic tablets so that these tablets may be studied further. The Committees also recommend a method for the analysis of cocaine hydrochloride tablets as a substitute for the method previously proposed.

A group of distinguished medical teachers and scientists from various medical centers in this country visited St. Louis in November, as the guests of Washington University Medical School. They inspected the medical school, Barnes Hospital and the St. Louis Children's Hospital and other institutions affiliated with the medical school. In the group were:

Mr. Abraham Flexner, of the general education board, New York.

Dr. Rufus Cole, physician-in-chief of the Hospital of the Rockefeller Institute.

Dr. Homer F. Swift of the Rockefeller Institute.

Dr. Eugene F. Du Bois, medical director of the Russell Sage Institute, New York.

Dr. Walter W. Palmer, professor of Medicine, Columbia University.

Dr. Adolph Meyer, director of the Phipps Institute, Baltimore.

Doctors W. T. Longcope, Dean Lewis, J. Whitridge Williams, L. W. Weed and Wilbert C. Davison, physicians in charge of departments of the Johns Hopkins Hospital.

Dr. M. C. Winternitz, dean of the Yale medical school.

Doctors J. P. Peters, S. C. Harvey, A. H. Morse and Ross G. Harrison, chief physicians of the New Haven Hospital, and professors in Yale University.

Dr. A. W. Buck, superintendent of the New Haven Hospital.

Dr. G. Canby Robinson, dean medical school of the Vanderbilt University, Nashville, Tenn.

Professors Barney Brooks and Sidney Burwell of the Vanderbilt University Hospital.

Dr. F. C. McLean, professor of medicine, University of Chicago.

Dr. Ralph B. Seem, superintendent of the Billings Memorial Hospital, Chicago.

Dr. George H. Whipple, dean of the medical college of the University of Rochester, N. Y.

Professors McCann, Clausen and Morton of the University of Rochester.

Dr. N. W. Faxon, superintendent of the Strong Memorial Hospital, Rochester, N. Y.

Dr. John Musser, professor of medicine, Tulane University of Louisiana.

Professors P. C. Jeans and E. D. Plass of the University of Iowa.

The American Association for the Study of Goiter will hold its annual clinical meeting at Philadelphia, January 31, February 1 and 2. This promises to be one of the most interesting sessions of this important body for the program announces demonstrations by many of the best known workers on goiter in the country. The forenoons will be devoted to clinics at the University of Pennsylvania the scientific sessions being held in the afternoons in the assembly room of the Bellevue Stratford Hotel. Members of our Association are invited to attend. The secretary, Dr. Kerwin Kinard, Kansas City, Missouri, will be glad to supply information concerning the meeting to those who may be interested in the session.

Missouri and Kansas physicians specializing in neurology and psychiatry have organized the Missouri-Kansas Neuropsychiatric Society. The first meeting was held in Kansas City, Missouri, December 6, 1926, with twenty five physicians from eastern Kansas and western Missouri present.

A paper was read by Dr. E. J. Curran, Kansas City, Missouri, on "Cerebral Fibre Tracts Exposed by Gross Dissection," which he illustrated with lantern slide demonstrations. Dr. A. L. Skogg, Kansas City, Missouri, presented cases of amaurotic family idiocy and Dr. B. Landis Elliott, Kansas City, Missouri, presented cases of narcolepsy. Dr. Peter T. Bohan, Kansas City, Missouri, gave an interesting talk on "Psychiatry in Europe from the Internist's Point of View."

The following officers were elected: President, Karl Menninger, Topeka, Kansas; vice president, F. A. Carmichael, Osawatomie, Kansas; secretary, E. T. Gibson, Kansas City, Missouri.

The next meeting will be held in February at the University Club, Kansas City, Missouri.

OBITUARY

GEORGE C. WILLSON, M.D.

On November 30, 1926, our Association suffered the loss of its first vice president, Dr. George C. Willson, Nevada, who died at his home after an illness of one week from pneumonia following an apoplectic seizure, aged 74 years.

Dr. Willson graduated from the St. Louis Medical College in 1879 and later took post-graduate courses at the Bellevue Hospital, New York City, and the Massachusetts General Hospital, Boston. His entire medical career was spent in Missouri, first in Morgan County, where he was born, and at Nevada. He was one of the most active members of our profession, prominent not only in medical affairs but in civic life and in politics. For four years he was superintendent of State Hospital No. 3, at Nevada, and he held practically every office of importance in the Vernon-Cedar County Medical Society and was elected first vice president of the State Association in 1926. In 1908, he was a delegate to the National Republican Convention at Chicago and was influential in Republican politics in the state. He was a charter member of the Methodist Episcopal Church and gave liberally of his time and money in the construction of the church building and extension of the church influence in the community. Dr. Willson's life was an inspiration to all who knew him and especially to the many friends and patients whom he had loved and comforted during his extended career. Upright in all his dealings with men, courageous in defense of his principles, earnest in his efforts to relieve sickness and suffering he was loved, honored and respected by people in all walks of life. In his death our Association has lost a staunch supporter of the principles of medical organization and the people in his community will miss one who was always a leader in every movement that had for its purpose the upbuilding of any project that made for the improvement of living conditions and the welfare of the community.

LOUIS H. MESTEMACHER, M.D.

Death when viewed from a purely psychical angle should not be feared by any mortal whose life has been lived along the lines of accepted principles. The question paramount is: How is death going to claim its victim? Will life's close be preceded by agonizing suffering, or

will a peaceful, tranquil life bring comfort in the closing hours?

Dr. Louis H. Mestemacher died from sepsis October 27, 1926, at St. Mary's Hospital, caused by an infected finger contracted while treating a patient. Only a few years previous while serving over seas during the World War as a captain he was repeatedly exposed to dangers that easily could have resulted in his death. But he escaped; the bullet had not been cast. It remained for one of these insignificant species of bacilli to destroy his life.

Dr. Mestemacher died at the age of thirty-seven years, an age in the life of a physician when his labors are at their best. He had practiced in St. Louis for fourteen years and was a graduate of the Medical Department of Washington University.

When Dr. Mestemacher returned to his native land, after two years service over seas, he brought with him a citation for distinguished services.

"Distinguished Services"—You have the man!
F. R.

JOSEPH M. PATTERSON, M.D.

Dr. Joseph M. Patterson, Kansas City, a graduate of the Pulte Medical College, Cincinnati, Ohio, 1887, died December 6, aged 61 years. He was a member of Jackson County Medical Society and of the State Association, and a Fellow of the American Medical Association. He practiced medicine in Kansas City for the past 27 years, devoting his attention to diseases of the eye, ear, nose and throat.

VICTOR CADWELL, M.D.

Dr. Victor Cadwell, Poplar Bluff, a graduate of the Kansas City Medical College, 1892, died at his home October 20, 1926, after an illness of several months. After receiving his diploma Dr. Cadwell spent several years as intern and house surgeon of the Missouri Pacific Railway Hospital at St. Louis and Kansas City. He then moved to Poplar Bluff where he established himself and where he enjoyed a wide circle of friends and a large surgical practice. He established the Cadwell Hospital of which he was the owner when he died. Dr. Cadwell has been a member of the county and state societies practically ever since he had begun practice at Poplar Bluff and was a Fellow of the American Medical Association and the American College of Surgeons.

BOOKS FOR LEISURE MOMENTS

The books for winter reading offer a varied and wide selection. Of course if you haven't read "Gentlemen Prefer Blonde's" (Boni & Liveright) during the summer months you will want to read about the little Arkansas girl who gets by in life by being, oh so nice, to the very nice men who have pocketbooks and says, "A kiss on the hand is all right but a diamond bracelet lasts forever." Anita Loos, the author, has really written a better book than most people who have not read it believe. It is more than the *Gentlemen and the Blonde*. It is a deep insight into human nature and a deep insight into the after-war conditions in the foreign countries among the aristocracy. It is really worth an hour or two of your time.

"Show Boat," by Edna Ferber (Doubleday Page & Company), is a good book because it is different. We might have called it a historical novel before the law suits started or rather threatened, but one would hesitate to say Miss Ferber was historically correct because one might have to answer to the descendants of the characters in the story. Before the book was published a suit for \$25,000 was brought against the magazine publishing the serial, on the ground that the present showboat, "Cotton Blossom," was having its reputation tarnished by the imaginary boat of the same name in the story. You, who read the front pages of the newspapers, are familiar with the other controversy regarding the naming of real characters in the story. "Show Boat" was, as its name indicates, a boat giving one night stands of such plays as "Tempest and Sunshine," "East Lynn," and "Way Down East" in the different ports along the Mississippi. Captain Andy Hawkes has a yearning for the stage people and a hankering after the river and boat. This is happily combined when he buys the "Cotton Blossom," but his wife, Parthenia, a domestic shrew of those days, had different ideas. She wanted a husband who went to his day labors in the early morning and returned at night to an immaculate well ordered home, but instead she had a husband who was with her all day. So Parthenia used her domestic instincts on the boat and, as a result, the "Cotton Blossom" was a little different and a little better by having Parthenia aboard, although her cleanliness and reforming instincts sometimes got on the nerves of her husband and the actors, not to mention the profane and tobacco spitting sailors. Magnolia, the daughter, marries Gaylord Ravenal, a gambler, and to them a daughter, Kim, is

born. Captain Andy one night falls overboard and Parthenia takes over the management of the Show Boat while Magnolia and her family leave for Chicago. Parthenia and her show boat portray the life while Ravenal, who haunts the gambling district of Chicago, and his family portray another sort of life of that period.

"Show Boat," so different from the usual trend of novels of today is good because of its out of the ordinary setting and its unusual characters.

"Her Son's Wife," by Dorothy Canfield (Harcourt, Brace & Company), should be peculiarly interesting to members of the medical profession because of the introduction of a chiropractor, "Dr. Pell," with an excellent description of his weird methods of treating disease. Another character, "Mrs. Bascomb," the mother, whose son brings home a wife not to her liking, also reminds physicians of many persons they have met with in their practice. The daughter-in-law, who could be described as personifying cheapness in everything from clothes to desires, is brought into the home of an intellectual, school teaching mother-in-law. After the birth of a child it becomes evident that the son's wife is about to bring havoc into that well educated, well mannered household. To save the grandchild the grandmother calls in a former pupil who goes under the title of "Doctor," but who seems to be a combination of chiropractor, osteopath and mental healer, but in reality is simply a man who uses big words, raises his eyebrows and lets it go at that. He senses the situation and tells the daughter-in-law she has an ailment which results in putting her to bed and saving the grandchild. In the end the grandmother saves the grandchild from becoming like her mother even at the expense of keeping the mother in bed during all those years.

The family physician in the story is a wonderful character, understanding the character and personality of each member of the family and understanding a great deal more than the outward pain they tell him about. The contrast between this good old family doctor and the young fellow with the big words and the raised eyebrows is well brought out. The older doctor is one of the clearest cut and best brought out characters in any recent novel. You couldn't put anything over on him.

Dorothy Canfield has a faculty for making you see her characters, making you understand them and making you relish them whether you will or not and in this instance she has not failed.

STATE UNIVERSITY DEDICATES MEMORIALS AT HOMECOMING WEEK

The Missouri-Kansas freshman football game at Columbia November 19 on Rollins Field opened the program for the 1926 Homecoming week-end. This game, which was to benefit the Walter Camp memorial fund, was the first ever to be played between the freshmen of the University of Missouri and the freshmen of the University of Kansas. Following the freshman game, women visitors were entertained at a tea given by the Y. W. C. A. and W. S. G. A. at the Y. W. C. A. House. At 7:15 o'clock the big mass meeting was held on Rollins Field. Jean Paul Bradshaw, student president, presided at the meeting. George C. Willson, St. Louis, was introduced and presented on behalf of Q E B H, men's senior honorary society of the University, painted portraits of Dr. John Carleton Jones, president-emeritus of the University, and Dr. Luther Marion Defoe, professor of mechanics of engineering of the University. Funds for the portraits were furnished by alumni and members of Q E B H. They will be placed per-



Fig. 1. Memorial Tower, State University, Columbia.

manently in the memorial room of the Memorial Tower. A handmade sheepskin, bearing the resolution of the Q E B H society regarding the portraits, was also presented. The gifts were accepted in behalf of the University by Mercer Arnold, a member of the Board of Curators.

The crowd went from Rollins Field to the Missouri-Kansas glee club concert in the University Auditorium. This was the third annual joint concert of the two clubs. One hundred and twenty-five members of the Missouri club sang in the joint concert. Two special numbers were sung by a picked chorus of fifty voices, consisting chiefly of men in the chorus last year. About fifty men of the Kansas club participated.

Guests of honor at the concert were parents of the Missouri men killed in the World War, and Dr. J. C. Jones, Prof. L. M. Defoe and Miss Eva Johnston.

Following the Glee Club concert an informal re-

ception was held at the Women's Gymnasium for alumni, faculty, and friends of the University. In the receiving line were Dr. and Mrs. Stratton D. Brooks, Dr. and Mrs. L. M. Defoe, Dr. and Mrs. J. C. Jones, Dean Louise I. Trenholme, Dr. and Mrs. Guy L. Noyes, Dr. and Mrs. John Pickard, Dean and Mrs. F. M. Tisdell, Miss Eva Johnston, and Dean Louise Nardin of the University of Wisconsin and formerly assistant dean of women of the University.

The program during the evening was presided over by Dr. Stratton D. Brooks. Mrs. J. C. Parrish, Vandalia, introduced Miss Louise Nardin who presented a portrait of Miss Eva Johnston which was accepted by Dr. J. C. Jones on behalf of the University. Miss Nardin also gave a four-page parchment booklet to Miss Johnston. The singing of "Old Missouri" closed the program.

At the same time the reception was taking place at the Women's Gymnasium the 1926 Homecoming Frolic was going on at Rothwell Gymnasium. Chaperons at the Frolic were: Dr. and Mrs. Stratton D. Brooks, Dean Louise I. Trenholme, Mrs. Margaret Chamberlain, Prof. and Mrs. J. E. Wrench, Prof. and Mrs. T. J. Talbert, Mr. and Mrs. C. L. Brewer, Mr. and Mrs. R. L. Hill, Miss Julia Spalding, and Miss Patience Haggard. The program consisted of a specialty dance by Miss Luella Akins and Laurence Brill, a dance by the chorus of the journalism show, and a dance by the frolic chorus coached by Miss Isabelle Levi.

On Saturday morning at 8 o'clock Q E B H entertained with a breakfast for their alumni at Harris', and Mortar Board entertained for their alumni at the Inglenook. Between 8 and 10 o'clock the University of Missouri Rifle Team and the University of Kansas Rifle Team fired a shoulder-to-shoulder match in the R. O. T. C. room on the third floor of Jesse Hall. This was the first time that two Valley rifle teams have met and fired a match on the same range. Competition in rifle circles is usually held by wire or mail.

At 9:15 o'clock the procession for participation in the dedication ceremonies at the Memorial Tower and the Memorial Stadium assembled at Jesse Hall and marched directly east by way of Lowry Street to the Memorial Tower. The order of march was as follows: The governor of Missouri and the governor of Kansas; the president, the president-emeritus, and the former president of the University of Missouri; the staff of the governor of Missouri; speakers and distinguished guests; state officials; members of the state legislature; members and former members of the Board of Curators of the University of Missouri; board of visitors; campaign directors, the Memorial Committee, and the Honor Roll Committee; the Guard of Honor (from the 35th and 89th Divisions of the American Legion), parents and relatives of men whose names are inscribed on the Honor Roll in the Memorial Tower; War Mothers; representatives of other universities, and faculty members of the University of Missouri.

Seats were also reserved for the Daughters of the American Revolution, the Colonial Dames, Daughters of 1812, and the United Daughters of the Confederacy.

The ceremony of dedication began when the University bell struck one stroke for each name on the Honor Roll.

"America" was sung by the audience accompanied by the R. O. T. C. band. The Rev. Harold L. Reader, a chaplain in the 35th Division, delivered the invocation. Then the joint glee clubs of the University of Kansas and the University of Missouri, accompanied by the band of the University of Missouri, sang "Now Let Every Tongue" by Bach.

Rice W. Means, United States Senator from Denver, Colo., commander of the Spanish-American War



Fig. 2. Memorial Stadium, State University, Columbia.

veterans, spoke as a representative of the Veterans. Gov. Sam A. Baker of Missouri spoke as a representative of the state and Forrest C. Donnell of St. Louis as an alumnus. The joint glee clubs next sang "Hymn of Thanksgiving."

The dedication speech was made by Dr. John Pickard, representing the Memorial Committee of Nine. Dr. John Carleton Jones, director of the Memorial Union and Stadium Campaign, unveiled and read the Honor Roll. Following the sounding of taps, Frank B. Rollins, president of the alumni association, made the presentation speech. Mercer Arnold accepted the gift in behalf of the University.

A brief dedication ceremony was held at the Memorial Stadium at 1:30 o'clock. The speech of presentation was made by Frank B. Rollins, and the acceptance by Mercer Arnold. This was followed by flag raising during which the band played "The Star Spangled Banner." A salute of twenty-one guns was fired followed by the salute to the heroic dead, to whom the Stadium is dedicated. A giant bomb containing an American flag for each of the University men who lost their lives in the World War was fired as part of this salute.

NEW CONSTITUTION AND BY-LAWS

At the St. Louis session of the Association in 1926 the Committee on Revision of the Constitution and By-Laws introduced a model form of Constitution and By-Laws for constituent state medical associations approved by the American Medical Association, to take the place of our present Constitution and By-Laws. In accordance with the recommendation of the committee, we publish the proposed Constitution and By-Laws for the information of members. Action upon the adoption of these proposals will be in order at the 1927 session.

The new Constitution and By-Laws follow:

CONSTITUTION

ARTICLE I.—NAME OF THE ASSOCIATION

The name and title of this organization shall be the Missouri State Medical Association.

ARTICLE II.—PURPOSE

The purposes of this Association are to promote the science and art of medicine, the protection of public health, and the betterment of the medical profession; and to unite with similar organizations in other states and territories of the United States to form the American Medical Association.

ARTICLE III.—COMPONENT SOCIETIES

SECTION 1. Component Societies shall consist of those county medical societies which hold charters from this Association.

SEC. 2. The terms, county medical society and component county medical society, shall be deemed

to include all county medical societies and academies of medicine now in affiliation with this Association, or which may hereafter be organized and chartered by the House of Delegates of this Association.

ARTICLE IV.—COMPOSITION OF THE ASSOCIATION

This Association shall consist of members who shall be the members of the component county medical societies who have been certified to the headquarters of this Association, and whose dues and assessments for the current year have been received by the Secretary.

ARTICLE V.—HOUSE OF DELEGATES

The House of Delegates shall be the legislative body of the Association, and shall consist (1) of delegates elected by the component county societies, and (2) the officers of the Association enumerated in Section 1 of Article IX of this constitution.

ARTICLE VI.—COUNCIL

The Council shall be the Board of Trustees of this Association. The Council shall have full authority and power of the House of Delegates between annual sessions, unless the House of Delegates shall be called into session as provided in the Constitution and By-Laws. It shall consist of the Councilors, the President, the President-Elect, the Secretary and the Treasurer of the Association. Nine of its members shall constitute a quorum.

ARTICLE VII.—SECTIONS AND DISTRICT SOCIETIES

The House of Delegates may provide for a division of the scientific work of the Association into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE VIII.—SESSIONS AND MEETINGS

SECTION 1. The Association shall hold an Annual Session during which there shall be at least two General Meetings, open to all registered members, delegates and guests.

SEC. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates, or such authority may be delegated to the Council.

SEC. 3. Special meetings of either the Association or the House of Delegates may be called by a two-thirds vote of the Council or upon petition by twenty delegates.

ARTICLE IX.—OFFICERS

SECTION 1. The officers of this Association shall be a President, a President-Elect, a Secretary, a Treasurer, and twenty nine Councilors, more or less

as shall be determined by the House of Delegates from time to time.

SEC. 2. The officers, except the Councilors, shall be elected annually. The terms of the Councilors shall be for two years; one half the members of the Council shall be elected each year. The Secretary and the Treasurer shall be elected by the Council. All these officers shall serve until their successors are elected and installed.

ARTICLE X.—FUNDS AND EXPENSES—BUDGET

Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates. Funds may also be raised by voluntary contributions, from the Association's publications and in any other manner approved by the House of Delegates. The Council shall submit an annual budget to the House of Delegates. All resolutions providing for appropriations shall be referred to the Council and all appropriations approved by the Council shall be included in the annual budget.

ARTICLE XI.—REFERENDUM

At any general meeting of the Association it may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates. The House of Delegates may, by a vote of its members, submit any question to the membership of the Association for its vote. A majority vote of all the members of the Association shall determine the question.

ARTICLE XII.—SEAL

The Association shall have a common seal. The power to change or renew the seal shall rest with the House of Delegates.

ARTICLE XIII.—AMENDMENTS

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the Delegates present at any Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session, and that it shall have been published twice during the year in The Journal of this Association, or sent officially to each component society at least two months before the meeting at which final action is to be taken.

BY-LAWS

CHAPTER I.—MEMBERSHIP

SECTION 1. The name of a physician on the official roster of this Association, after it has been properly reported by the secretary of his county society, shall be *prima facie* evidence of membership and of his right to register at the Annual Session.

SEC. 2. No person who is under sentence of suspension or expulsion from any component society of this Association, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Association.

SEC. 3. Each member in attendance at the Annual Session shall register, when his right to membership has been verified by reference to the records of this Association. No member shall take part in any of the proceedings of the Annual Session until he has complied with the provisions of this section of the By-Laws.

CHAPTER II.—GENERAL MEETINGS

SECTION 1. The General Meetings shall be open to all registered members and guests. Before them, at such time as may have been arranged, shall be delivered the annual addresses of the President and of the President-Elect and the annual orations.

SEC. 2. No address or paper, except those of the President, the President-Elect and the annual orations, shall occupy more than twenty minutes in its delivery. No member, except by unanimous consent, shall speak more than once in the discussion of any paper nor longer than five minutes at any one time.

SEC. 3. All papers read before this Association shall be its property. Each paper, when it has been read, shall be deposited with the Secretary. Authors of papers read before this Association shall not cause them to be published elsewhere until after they have been published in its Journal.

CHAPTER III.—HOUSE OF DELEGATES

SECTION 1. The House of Delegates shall meet annually at the time and place of the Annual Session. It shall remain in continuous session on the first day of the Annual Session and complete the work coming before it at that session. It shall meet on the third day of the Annual Session to receive the report of the Nominating Committee and complete unfinished business and the election of officers. No new business shall be introduced at this session without the unanimous consent of the delegates.

SEC. 2. Each component county society shall be entitled to send each year one delegate or one corresponding alternate to the House of Delegates for each fifty full-paid members or fraction thereof in this Association; provided, however, that each county society shall be entitled to at least one delegate or one corresponding alternate.

SEC. 3. Forty delegates shall constitute a quorum of the House of Delegates. All meetings of the House of Delegates shall be open to members of the Association.

SEC. 4. From among members of the House of Delegates the President shall appoint Reference Committees to which reports and resolutions shall be referred as follows:

Reference Committee on Amendments to the Constitution and By-Laws.

Reference Committee on Resolutions.

Reference Committee on Miscellaneous Affairs.

He shall also appoint a Committee on Credentials and such other committees as may be considered by him to be necessary.

SEC. 5. The House of Delegates shall elect delegates to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body.

SEC. 6. The House of Delegates shall upon application, provide and issue charters to county societies organized to conform to the spirit of this Constitution and By-Laws.

SEC. 7. The House of Delegates shall divide the State into Councilor Districts, specifying what counties each district shall include, and, when the best interest of the Association and the profession will be promoted thereby, organize in each a district medical society, of which all members of the component county societies shall be members.

SEC. 8. The House of Delegates shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates. Such committees shall report to the House of Delegates, and may be present and participate in the debate on their reports.

SEC. 9. The House of Delegates shall approve an annual budget of expense to be submitted to it by the Council.

SEC. 10. It shall approve all memorials and resolutions issued in the name of the Association before they shall become effective.

CHAPTER IV.—ELECTION OF OFFICERS

SECTION 1. The President on the first day of the Annual Session shall select a committee on nominations consisting of ten delegates, no two of whom shall be from the same councilor district. The committee on nominations shall report the result of its deliberations to the House of Delegates in the form of a ticket containing the name of one member for each of the offices to be filled at that Annual Session, excepting the President-Elect, who shall be nominated from the floor of the House of Delegates. On the adoption of this section the nomination of the President for the succeeding year shall be made from the floor of the House. Each candidate for Councilor must be a resident of the district for which he is nominated.

SEC. 2. The report of the nominating committee and the election of officers shall be the first order of business of the House of Delegates at the second meeting of the House.

SEC. 3. All elections of officers shall be by ballot and a majority of the votes cast shall be necessary to elect except for delegates and alternates to the American Medical Association. In case no nominee receives a majority of the votes on the first ballot, the nominee receiving the lowest number of votes shall be dropped and a new ballot taken. This procedure shall be continued until one of the nominees receives a majority of all the votes cast, when he shall be declared elected. In case no delegates or alternates for the American Medical Association receive on the first ballot a majority of the vote, the nominees shall be declared elected in the order of the highest number of votes received, until the allotted number shall have been chosen. In case of a tie vote for delegate or alternate, the tie shall be determined by lot.

SEC. 4. Nothing in this chapter shall be construed to prevent additional nominations being made from the floor by members of the House of Delegates.

SEC. 5. No person known to have solicited votes for or sought any office within the gift of this Association shall be eligible for any office for two years.

SEC. 6. Delegates shall not be eligible for election to any of the offices named in the Constitution, except that of Councilor.

CHAPTER V.—DUTIES OF OFFICERS

SECTION 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for; he shall deliver an annual address at such time as may be arranged, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the state during his term of office, and, as far as practicable, shall visit, by appointment, the various sections of the state and assist the Councilors in building up the county societies, and in making their work more practical and useful.

SEC. 2. The President-Elect shall be a member of the Council ex-officio, shall act for the President in his absence or disability. If the office of President should become vacant the President-Elect shall succeed to the presidency.

SEC. 3. The Treasurer shall give bond in the sum of \$20,000. He shall demand and receive all funds due the Association, together with bequests and donations. He shall pay money out of the Treasury only on a written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands.

SEC. 4. The Secretary shall attend the General Meetings of the Association and the meetings of the House of Delegates, and shall keep minutes of their respective proceedings in separate record books. He shall be Secretary of the Council and shall keep a record of its proceedings. He shall be custodian of all record books and papers belonging to the Association, except such as properly belong to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the Annual Session. He shall, with the cooperation of the secretaries of the component societies, keep a card-index register of all the legal practitioners of the state by counties, noting on each his status in relation to his county society, and shall transmit a copy of this list to the American Medical Association, transmitting to its secretary each month a report containing the names of new members and the names of those dropped from the membership roster during the preceding month. He shall conduct the official correspondence, notifying members of meetings, officers of their election and committees of their appointment and duties. He shall employ such assistants as may be ordered by the Council and shall make an annual report to the House of Delegates. He shall supply all component societies with the necessary blanks for making their reports, and shall collect from them the regular per capita assessments and turn the same over to the Treasurer. The amount of his salary shall be fixed by the Council.

CHAPTER VI.—COUNCIL

SEC. 1. The Council shall meet on the first day of the Annual Session, and daily during the Session and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. It shall meet on the third day of the Annual Session of the Association to organize. It shall, through its Chairman, make an annual report to the House of Delegates.

SEC. 2. Each Councilor shall be organizer, peace-maker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and to keep in touch with the activities of and to aid in the betterment of the component societies of his district. He shall make an annual report of his work, and of the condition of the profession of each county in his district at the Annual Session of the Council. The necessary traveling expenses incurred by each Councilor in the line of duties herein imposed may be allowed on a proper itemized statement, but this shall not be construed to include his expense in attending the Annual Session of the Association.

SEC. 3. The Council shall be the executive body of the House of Delegates and between sessions shall exercise the power conferred on the House of Delegates by the Constitution and By-Laws. Three members of the Council, elected by the Council, together with the President and the Secretary, shall be the Executive Committee of the Council and shall constitute a quorum for the transaction of business excepting that concerning the conduct of a member, when a majority of the membership of the Council shall be necessary to act; provided, the action of the Executive Committee of the Council shall be subject to the approval of the Council.

SEC. 4. The Council shall be the Board of Censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of

an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or component societies, on which an appeal is taken from the decision of an individual Councilor. Its decision in all cases, including questions regarding members in this Association, shall be final.

SEC. 5. Charters shall be issued to county societies only on approval of the Council, and shall be signed by the President and Secretary of this Association. Upon the recommendation of the Council, the House of Delegates may revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

SEC. 6. In sparsely settled sections the Council shall have authority to organize the physicians of two or more counties into societies, to be suitably designed so as to distinguish them from district societies, and these societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

SEC. 7. The Council shall provide for and superintend the issuance of all publications of the Association, including proceedings, transactions and memoirs, and shall have authority to appoint an editor and such assistants as it deems necessary. It shall prescribe the methods of accounting and through a committee of three of its members, to be known as a Committee on Auditing and Appropriations, shall audit all accounts of this Association. The Council shall adopt an annual budget providing for the necessary expenses of the Association, which shall be prepared and presented for its consideration by the Committee on Auditing and Appropriations at the first meeting of the Council in December of each year. It shall submit an annual report to the House of Delegates, which shall specify the character and cost of the publications of the Association, the amount and character of all of its property, and shall provide full information concerning the management of all affairs of the Association which the Council is charged to administer.

SEC. 8. The Council shall appoint, at least six months before the annual meeting, a committee, consisting of three of its members, to be known as the Committee on Arrangements for the Annual Session. On recommendation of this committee, the Council shall appoint a general chairman of a local committee on arrangements, who shall be a member of the component society of the county in which the Annual Meeting is to be held, and who shall appoint and organize from the members of this county society the personnel of the local committee on arrangements. The local committee on arrangements shall provide suitable meeting places and shall have general charge of all local arrangements subject to the approval of the Committee on Arrangements for the Annual Meeting. All receipts accruing from the Annual Meeting shall be turned over to the Committee on Arrangements and all expenditures made by that committee in connection with the Annual Meeting must be authorized in advance by the Committee on Auditing and Appropriations. Immediately after the Annual Meeting the Committee on Arrangements shall forward to the Treasurer any accumulated balance. Any deficit created on account of the Annual Meeting shall be met by the Council on recommendation of the Committee on Auditing and Appropriations.

SEC. 9. The Council shall by appointment fill any vacancy in office not otherwise provided for which may occur during the interval between annual meetings of the House of Delegates; the appointee

shall serve until his successor has been elected and has qualified.

SEC. 10. The salaries of all employees of the Association shall be fixed by the Council.

SEC. 11. The Council shall provide such headquarters for the Association as may be required to conduct its business properly.

CHAPTER VII.—COMMITTEES

SECTION 1. The standing committees of this Association shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy.

A Committee on Publication.

A Committee on Medical Defense.

A Committee on Medical Education and Hospitals.

A Committee on Medical Economics.

Unless otherwise provided in these By-Laws, each of these committees shall consist of three members, each of whom shall serve for a term of three years. One member of each of these committees shall be appointed annually by the President, by and with the consent of the House of Delegates, provided that at the Seventieth Annual Session one member of each of the foregoing committees shall be appointed for a term of three years, one each for two years, and one each for one year.

SEC. 2. The Committee on Scientific Work shall consist of three members, of which the Secretary shall be one, and shall determine the character and scope of the scientific proceedings of the Association for each session, subject to the instructions of the House of Delegates. Thirty days previous to each Annual Session it shall prepare and issue a program announcing the order in which papers and discussions shall be presented.

SEC. 3. The Committee on Public Policy shall consist of three members, and the President and the President-Elect. There shall be a joint meeting of this committee and an auxiliary committee, as provided for in Chapter XI, Section 10 of these By-Laws, held annually, as may be ordered on the call of the chairman or three members of the State Committee. The chairman of the State Committee, and in his absence, the President, shall act as chairman at the joint committee meetings. Under the direction of the State Committee, the joint committee shall represent the Association in securing and enforcing legislation in the interest of public health and of scientific medicine.

SEC. 4. The Committee on Publication shall have referred to it all reports on scientific subjects, and all scientific papers and discussions heard before the Association. It shall be empowered to curtail, abstract or reject papers and discussions. The committee shall arrange for the publication and distribution of THE JOURNAL.

SEC. 5. The Committee on Defense shall upon request aid in compliance with the conditions herein-after named, and in the defense of suits for alleged malpractice instituted or threatened against any member of the Association.

CONDITIONS

(a) Any member whose annual dues have been received by the Secretary of the County Society on or before April 1 shall have the continuous protection provided for in this section. New members have a right to defense on receipt of their dues by the Secretary of the County Society.

(b) Any member whose annual dues have not been received on or before April 1 shall be delinquent from the first day of January of that year and shall remain so until his dues are paid. No member shall receive legal defense for any malpractice suit filed before the date of his enrollment as a member or during his delinquency; nor if the

services for which malpractice is alleged were rendered wholly or in part before the date of his enrollment as a member or during his delinquency.

(c) Any member desiring to avail himself of the provisions of this section shall, within three days after any demand has been made upon him, present his request to the Secretary of this Association, together with a complete history of the case and the services therein rendered. The committee shall then, with the aid of its counsel, advise said member up to the time of the institution of suit. Should suit be filed, a copy of the plaintiff's petition must be immediately forwarded to the Secretary of this Association. The committee shall thereupon provide such medical expert and legal services of counsel as may be necessary, but in no case shall the cost to this Association be in excess of \$100 for all such services. The Association does not obligate itself to pay, nor shall it pay in whole or in part, any damages agreed upon in compromise, or awarded after trial, nor shall it pay any of the expenses incident to the taking of depositions nor any of the costs of court.

(d) No member shall be entitled to the above-described defense should the charge of malpractice be brought jointly against him and a hospital or sanatorium in which he is, or at the time of the alleged malpractice was, financially interested.

(e) Such aid as is specified in this section refers to civil malpractice only and is not to be construed to apply to criminal prosecutions.

SEC. 6. The Committee on Medical Education and Hospitals shall serve in this State for the Council on Medical Education and Hospitals of the American Medical Association, and shall have referred to it all questions pertaining to hospitals and medical education.

SEC. 7. The Committee on Medical Economics shall investigate matters affecting the economic status of physicians and shall report annually to the House of Delegates such recommendations as may, in its judgment, seem proper.

CHAPTER VIII.—DUES AND ASSESSMENTS

SEC. 1. The annual dues and assessments shall be determined by the House of Delegates, and shall be levied per capita on the members of the Association. They shall be payable on or before January 1 of the year for which they are levied. One dollar of the annual dues shall be credited to subscription to *THE JOURNAL* for one year. The Secretary of each component society shall cause to be collected and shall forward to the offices of the Association the dues and assessments for its members, together with such data as shall be required for a record of its officers and membership. Any member whose name has not been reported for enrolment and whose dues for the current year have not been remitted to the Secretary of this Association on or before April 1, shall stand suspended until his name is properly reported and his dues for the current year are paid.

SEC. 2. The record of payment of dues and assessments on file in the offices of the Association shall be final as to the fact of payment by a member and as to his right to participate in the business and proceedings of the Association and of the House of Delegates.

SEC. 3. Any county society which fails to make the reports required, at least thirty days before the Annual Session of the State Association, shall be held suspended, and none of its members or delegates shall be permitted to participate in any of the proceedings of the Association or of the House of Delegates.

CHAPTER IX.—RULES OF CONDUCT

SECTION 1. The ethical principles governing the

members of the American Medical Association shall govern members of this Association.

SEC. 2. It is unprofessional for a physician to recognize or support in any manner any school of medicine, or any alleged method of treating disease or injury, based on exclusive dogma or sectarian system or professedly limited to the use of certain methods or designated by special titles or otherwise reputed in the profession as irregular. For a physician to consult with, exchange material benefits with, or to recommend or support a practitioner of any such system is unprofessional and constitutes gross misconduct.

CHAPTER X.—RULES OF ORDER

The deliberations of this Association shall be conducted in accordance with parliamentary usage as defined in Robert's Rules of Order.

CHAPTER XI.—COUNTY SOCIETIES

SECTION 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws shall, upon application to the Council, receive charters from this Association, provided that their Constitutions and By-Laws shall have been submitted to the Council and received its approval.

SEC. 2. Only one component medical society shall be chartered in each county.

SEC. 3. Each county society shall judge of the qualifications of its members, subject to review and final decision by the Council of the State Association. Every reputable and legally qualified physician who does not practice, nor profess to practice sectarian medicine, and who is a bona fide resident of the same county, who shall apply for membership on the prescribed form and subscribe for *THE JOURNAL* and pay the annual dues for the current year, shall be eligible for election to membership.

A member of a component society whose license has been revoked shall be dropped from membership automatically as of the date of revocation. The Council of the State Association shall have final authority to expel a member should a component county society fail to do so after being so requested by the Council.

A component society may at its discretion place active members who have reached advanced years and have long served the Association and profession, on an "Honor List" and such members shall be known as "Honor Members." They shall enjoy all the privileges of active membership and shall be exempt from dues.

The Council may upon request of a component society remit the state assessment of a member who has become totally and permanently incapacitated through mental or physical disability and has been a member in good standing during the three consecutive years immediately preceding his disability; provided, that the component society shall remit the county society dues of such member.

A physician living near a county line may hold his membership in that county most convenient for him to attend, on permission of the component society in whose jurisdiction he resides.

SEC. 4. Any physician who may feel aggrieved by the action of the society of his county in suspending or expelling him, shall have the right to appeal to the Council, whose decision shall be final. A county society shall at all times be permitted to appeal or refer questions involving membership to the Council of the State Association for final determination.

SEC. 5. In hearing appeals the Council may admit oral or written evidence as in its judgment will most

fairly present the facts, but in the case of every appeal both as a board and as individuals, the Councilors shall, preceding all such hearings, make efforts at conciliation and compromise.

SEC. 6. When a member in good standing in a component county society moves to another county in this State, he shall be given a written certificate of these facts by the Secretary of his society, without cost, for transmission to the Secretary of the society in the county to which he moves. Pending his acceptance or rejection by the society in the county to which he removes such member shall be considered to be in good standing in the county society from which he was certified and in the State Association to the end of the period for which his dues have been paid.

A member of a component society who removes to and engages in the practice of medicine at a location in another county in which there is a component society shall forfeit his membership in this Association and the Secretary shall remove his name from the roster of members of the Missouri State Medical Association unless within one year after such change of residence he become a member of the component society in the county to which he has moved.

SEC. 7. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county. Systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it includes every eligible physician in the county.

SEC. 8. At some meeting in advance of the Annual Session of this Association, each component county society shall elect one or more delegates and an equal number of individual alternates therefor to represent it in the House of Delegates of this Association, in accordance with Chapter III, Section 2, of these By-Laws. The secretary of each county society shall send a list of such delegates and alternates to the Secretary of this Association at least thirty days before the Annual Session. Representation in the House of Delegates shall be contingent on compliance with the foregoing provisions.

SEC. 9. The Secretary of each county society shall keep a roster of its members and, if practicable, a list of non-affiliated physicians, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary by Council. He shall send a copy of the program of each county meeting to his district Councilor and to the Secretary.

SEC. 10. Each county society shall appoint or elect one of its members as a member of the auxiliary Committee on Public Policy, and the county society secretary shall send his name and address at once to the Secretary of this Association. The Committee on Public Policy of this Association shall formulate the duties of this auxiliary committee and supply each member with a copy. The auxiliary committeemen shall be accountable to their county societies and to the Council for prompt response to and continued cooperation with the Committee on Public Policy of this Association.

CHAPTER XII.—AMENDMENTS

SECTION 1. These By-Laws may be amended at any Annual Session by a majority vote of the delegates present at that session, if the proposed amendment has been properly submitted to the House of Delegates and has lain on the table for one day.

SEC. 2. Upon the adoption of this Constitution and these By-Laws, all previous Constitutions and By-Laws are thereby repealed.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1926

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

- Camden County Medical Society, November 23, 1925.
- Howard County Medical Society, January 8, 1926.
- Chariton County Medical Society, January 20, 1926.
- Reynolds County Medical Society, February 22, 1926.
- Ralls County Medical Society, February 27, 1926.
- Madison County Medical Society, March 16, 1926.
- Schuyler County Medical Society, March 25, 1926.
- Franklin County Medical Society, March 29, 1926.
- Howell-Oregon Medical Society, April 7, 1926.
- Webster County Medical Society, April 7, 1926.
- Monroe County Medical Society, April 14, 1926.
- Platte County Medical Society, April 23, 1926.
- Atchison County Medical Society, April 26, 1926.
- Saline County Medical Society, May 15, 1926.
- Carter-Shannon Medical Society, June 28, 1926.
- Bates County Medical Society, September 17, 1926.
- Laclede County Medical Society, October 13, 1926.
- Pettis County Medical Society, October 19, 1926.

WASHINGTON UNIVERSITY MEDICAL SOCIETY

One Hundred and Twenty Third Meeting, October 11, 1926

1. PRESENTATION OF CASES.
2. A SUMMER IN ENGLAND.—By DR. EVARTS A. GRAHAM.
3. ENGLISH AND EUROPEAN WORK ON THE PROBLEM OF MUSCLE TONUS.—By DR. S. WALTER RANSON.
4. EXPERIMENTAL WORK WITH LIVER AMYLASE.—By DR. H. A. DAVENPORT.

An extract of dog liver which had been washed free from blood was used in the experiments. Its amylolytic activity was studied, using both glycogen and starch as substrates. The purpose of the work was to test the effect of adrenalin and insulin on the rate of hydrolysis of the substrate and try to confirm the work of Langfeldt. (J. Biol. Chem. 1921. 46:381,391,403.) and of Cammidge and Howard (J. Metab. Research. 1924. 5:95.). Contrary to the observations of the former workers no acceleration of hydrolysis was observed when adrenalin was added and no inhibition when insulin was added to hydro-

lyzing mixtures of enzyme, substrate and phosphate buffer solutions.

**One Hundred and Twenty Fourth Meeting,
November 8, 1926**

1. PRESENTATION OF CASES.

A. A CASE OF MULTIPLE BONE TUBERCULOSIS IN AN ADULT.—By DR. R. C. BOND.

Patient F. K. (colored), age 27, single, a night watchman, entered the hospital with the chief complaint of "pain in the back and right hip." Past history reveals the following important data: In August, 1925, patient came to Dispensary complaining of pain in the back. X-rays of back showed osteo-arthritis of the lumbar spine. During the same summer (1925) patient noticed that the third toe of his right foot was painful; this became progressively worse and in February, 1926, the toe discharged pus. The toe was amputated at the City Hospital with diagnosis of osteomyelitis. No other complaints until present illness. During July patient was able to work. In August patient again had pain in his back which extended into his right thigh; at times noticed slight sharp pains in right shoulder. There was an occasional night sweat with fever but no cough. Patient seen in Dispensary August 11, 1926, acutely ill, with a rigid lumbar spine. Physical examination on admission revealed the following positive physical findings: Fever 102°, pulse 110. There is a small nodule seen in pharynx, not tender. There was enlargement of the cervical lymph nodes and signs of a mass in the upper lobe right lung. Spine straight with limited motion in all directions, with swelling on the left side of the vertebral column at the level of the 2nd lumbar vertebra. Reflexes not markedly significant. Two days later a fluctuating area found over the right elbow joint which was aspirated and injected into a guinea pig. Temperature continued to be of the septic type with leucocytes varying from 7,000 to 20,000. On September 9 when the patient attempted to walk he fell and had to be helped back to bed. A few hours later physical examination revealed stiff neck, extreme tenderness and marked crepitation over the 3rd and 4th thoracic vertebrae, both legs paralyzed, all reflexes absent, complete anesthesia below the level of the 4th thoracic vertebra and from that time on had incontinence of urine. Several days later the patient's voice was markedly changed in character and the small nodule which was seen previously had greatly increased in size and showed definite fluctuation. X-rays showed this to be a retropharyngeal abscess. The urine showed a faint trace of albumin with occasional red cell. Tubercle bacilli were not found microscopically. The urine and the fluids from the elbow joint were injected into guinea pigs. Later the right knee became tender and swollen and fluid was aspirated from the joint. The patient continued to run a septic temperature and his course has been steadily down hill. The following X-ray diagnoses were made: Tuberculosis of the lumbar and sacral spine; tuberculosis of the cervical and thoracic spine with cold abscess formation (retropharyngeal and mediastinal abscesses); tuberculosis of the right elbow and knee joints; destructive lesions of the skull, probably tuberculosis. The guinea pigs into which the urine and the fluid from the elbow joint had been injected were examined after 6 weeks and showed definite evidence of tuberculosis. Diagnosis: Multiple bone tuberculosis.

This type of multiple tuberculous bone lesion is unusual in adults.

B. A CASE OF DIAPHRAGMATIC HERNIA.—By DR. T. S. ZAHORSKY.

H. K., a girl, 5½ years of age, entered the St. Louis Children's Hospital in May, 1926, to go to the convalescent farm after an operation for empyema. She is the fourth child of five, the others being in good health. She has always been well until influenza, followed by left sided pleurisy in December, 1925, for which an operation was performed in January, 1926, and drainage tube was kept in side until April, 1926. She developed a cough about that time, was diagnosed chronic bronchitis with thickened pleura on left, and referred to the St. Louis Children's Hospital.

On admission patient appeared somewhat undernourished, with tonsils moderately enlarged. The scar of the empyema drain was seen in the lower left chest, posteriorly. There were diminished resonance and breath sounds in lower left chest, posteriorly, and in axilla, with increased voice sounds in this area but no râles were heard. The heart was in normal position with the apex impulse visible in 5th space just at the nipple line. Patient was apparently normal otherwise.

After three months spent at the country convalescent hospital, where she gained weight, she was returned to the Children's Hospital with an acute upper respiratory infection and vomiting, from which she recovered in about 10 days.

After another two months at the convalescent farm she developed another upper respiratory infection with vomiting and was sent back to the Hospital where it was noticed that the heart impulse was in the right chest and that there was tympany over the left chest above and dullness below. X-ray showed hydro-pneumothorax on left with heart pushed over to right chest and plate taken with patient on right side colonic haustra were seen in chest above the fluid level. X-rays after barium meal demonstrated that the stomach occupied the site of the supposed pneumothorax and that also the splenic flexure was in the left chest, rising to the level of the 4th rib, anteriorly. Patient continues to be comfortable and surgical intervention so far does not seem justified.

C. A CASE OF BRAIN TUMOR.—By DR. E. F. FINCHER, JR.

The features which warrant the presentation of this case of brain tumor are (1) history of a preceding head injury; (2) the large size of the tumor with very few symptoms; (3) a peculiar visual field defect of the right eye unexplained before operation; and (4) the preoperative localization of the tumor by X-ray.

J. A., an auditor, suffered a fracture of the right parietal region two and a half years ago in a street car accident. The diagnosis was confirmed by X-ray and he made a good recovery. It was noted that he had a diminution in vision while in the hospital. Some weeks later he had an attack of left sided paresthesia accompanied by very slight motor weakness, starting in the hand and spreading rapidly over the left side. This and a later similar attack cleared up after a short time. A third seizure of this character caused his admission to the hospital for neurological study.

On admission in October, 1926, he was found to have a positive right sided Oppenheim sign, a left sided diminution in tactile discrimination, bilateral choked discs with a nasal and central blindness of the right eye and a concentrically constricted left visual field. X-ray films of the skull showed convolutional atrophy with a definite bone thinning and greatly enlarged venous channels in the right parietal region. Upon these findings a diagnosis of brain

tumor was made and operation performed under local anesthesia October 25, 1926.

A right sided craniotomy revealed an enormous tumor arising from the dura, lying in the sensory area of the cortex and extending down to the Sylvian fissure. Its tip lay on the optic fibres and accounted for the peculiar eye field.

Very little hemorrhage was encountered at the operation. The tumor weighed 250 grams, the largest that has been successfully removed on this service. The dura which had to be removed with the tumor was replaced by transplanting a piece of fascia lata.

Some postoperative fluid accumulation was controlled by pressure bandages.

2. FURTHER DATA ON THE ACETIC ANHYDRIDE SULPHURIC ACID TEST: THE BOLTZ CEREBRO-SPINAL FLUID TEST.—By DR. LEE D. CADY.

The Boltz test was devised as a modification of the Liebermann cholesterol test. It is made by adding 0.3 cc. of acetic anhydride to 1 cc. of spinal fluid. It is shaken and 0.8 cc. of concentrated sulphuric acid is added drop by drop. If a lilac or violet color appears in about 5 minutes, the test is positive. This technique has been positive in 97 to 100 per cent. of paretics and in a high percentage of other neurosyphilitics.

In the 799 spinal fluids tested in this work the technique was modified by adding the sulphuric acid rapidly. More positive tests resulted. The nature of the lilac or violet producing substance does not seem to be that of cholesterol, since various amounts of cholesterol did not give positive tests. It is associated with the spinal fluid proteins, but it is not destroyed by peptic digestion. Ether, alkalis, nitric acid and hydrogen peroxide destroy it. Aging or contamination does not seriously impair it. The same substance is in some nonsyphilitic sera.

Three hundred and twenty two known syphilitic fluids gave 88.7 per cent. positive Boltz tests. Ninety four and six tenths per cent. of the known paretic fluids were positive. Forty two and four tenths per cent. of nonsyphilitic neuropsychiatric fluids were positive. Twenty seven and two tenths of nonsyphilitic and nonneurological fluids were positive. Thus it seems that the modified technique is too sensitive as a diagnostic test for syphilis, but it is useful as a test for inflammatory or degenerative nerve tissue changes.

The test may be rendered negative by anti-syphilitic treatment. Usually it is the last test to become negative.

The best use for the Boltz test will result when the original and the modified technique are used on the same fluids. A strong reaction by both is presumptive evidence of syphilis. When the original technique is negative and the modified technique is rather weakly positive, the abnormality is probably some other condition. The modified technique promises to be very useful as a criterion for suspension of anti-luetic treatment.

3. STUDIES ON THE TOTAL EXTERNAL SECRETION OF THE PANCREATIC JUICE.—By DRs. ROBERT ELMAN, AND J. M. McCAUGHAN.

By appropriate methods, it has been possible to effect the drainage of the entire 24 hour output of pancreatic juice under sterile conditions, following which a definite chain of symptoms develops leading to the death of the animal in 5 to 8 days. These symptoms are characterized by anorexia on the third

day, increasing asthenia, gastric irritability, and persistent vomiting so that not even water can be retained. During this time, the secretion of pancreatic juice continues in amounts averaging 200 to 600 cc. per 24 hours up to the end even when no food or water is taken. In such an animal, moribund from loss of pancreatic juice, recovery was rapid and complete by simply returning the secretion to the duodenum through a second tube previously placed. The blood findings were characterized by a marked dehydration as shown by a 30 per cent. increase in the relative red cell volume, an increase in PH, a lowered content of blood chlorides, but no change in the sugar values.

The method by which the entire pancreatic juice was obtained under sterile conditions is similar to that described by Rous and McMaster for the collection of total bile. By an "altercursive" intubation two tubes were installed enabling secretion to drain to the outside or back to the duodenum at will. Detailed descriptions will be found elsewhere.

The fact that such drainage of the total pancreatic juice uniformly leads, in absence of infection or obstruction, to the death of the animal in 5 to 8 days, brings up a number of important questions in the mechanism of the external secretion of the pancreas and concerning its relation to the stomach.

The stimulus to this seemingly intense secretion must be one quite apart from the ingestion of food since it continues long after food is refused. The acid gastric juice immediately suggests itself since it is normally a most powerful stimulant of pancreatic secretion. Indeed, we may picture the gastric acidity as constantly effective under the conditions of the experiment, even in the absence of food, if we assume that the regurgitation of alkaline pancreatic juice normally occurs as a regulator of gastric acidity. The drainage of the pancreatic juice to the outside thus gives rise to the unopposed acid secretion and a vicious circle is formed quickly leading to the death of the animal since, by the vomiting, the loss of gastric juice is added to that of the pancreatic juice.

From the blood findings mentioned above and from the fact that death occurs on the sixth to eighth day,—about the duration of life after acute pyloric obstruction,—a possible analogy between the two conditions may exist. The persistent vomiting in itself may be responsible for these findings since Gamble has shown that loss of fixed base in the vomitus brings about the alkalosis and lowered blood chlorides. That the death may be analogous to that following the establishment of a duodenal fistula seems possible. Hartman has shown that the loss of fixed base in this condition leads to the same blood findings as that following persistent vomiting. The absence of glycosuria and abnormal blood sugar values would seem to rule out any involvement of the internal secretion of the pancreas.

The reason for the persistent vomiting may be connected with the elimination of the alkaline regurgitation of the pancreatic juice into the stomach, which is claimed to be a normal and from our findings might be an indispensable phenomenon. We have frequently noted in our animals that the giving of 0.5 per cent. acid solutions into the stomach after the third or fourth day of drainage would promptly result in vomiting even though tap water would be tolerated. Boldyreff in similar experiments noted "the toxic effect of acid solutions in the stomach" of dogs draining pancreatic juice.

BOONE COUNTY MEDICAL SOCIETY

The regular meeting of the Boone County Medical Society was held at Columbia, December 7, 1926, with the president, Dr. Kampschmidt, in the chair.

The minutes of the November meeting were read and approved. Twenty five members were present.

Committee reports: Dr. Thornton reported that there would be no scientific program at this meeting. The bills for the cost of the inter-county meeting were allowed.

The following officers were elected for 1927: President, Lloyd Simpson; vice president, W. R. Shaefer; secretary-treasurer, Hugh P. Muir; delegate, R. R. Robinson; alternate, J. E. Thornton.

The meeting of the Boone County Medical Society was followed by a meeting of the staff of the Boone County Hospital.

Dr. E. D. Baskett described a case of apoplexy; Dr. Lloyd Simpson a case of prostatectomy; Dr. W. R. Shaefer a case of pneumonia. Discussion by Drs. W. P. Dysart and A. R. McComas.

Election of officers: Dr. F. G. Nifong, chief of staff; Dr. A. R. McComas, assistant chief; Dr. H. P. Muir, secretary.

HUGH P. MUIR, M.D., Secretary.

LACLEDE COUNTY MEDICAL SOCIETY

The Laclede County Medical Society met at Lebanon in the office of Dr. Billings, December 6, 1926, with the President, Dr. H. A. Hamilton, in the chair. Those present were: Drs. Thos. B. Herbert, J. G. Scott, J. A. McComb, J. W. Lindsay, Chas. E. Carleton, J. M. Billings.

The minutes of the last meeting were read and approved and several communications were read and filed.

Dr. McComb led in a discussion on heart muscle which was very interesting.

The election of officers for 1927 resulted in the choice of the following: C. E. Carleton, Stoutland, president; J. G. Scott, Lebanon, vice president; J. M. Billings, Lebanon, secretary-treasurer; J. W. Lindsay, Conway, delegate; C. E. Carleton, Stoutland, alternate.

The President-Elect appointed the following committees: Program, Drs. J. A. McComb and H. A. Hamilton; Censors, Drs. J. M. Billings, J. G. Scott, and Thos. B. Herbert.

The next meeting will be held on the first Monday in March, 1927.

J. M. BILLINGS, M.D., Secretary.

LAFAYETTE COUNTY MEDICAL SOCIETY

The Lafayette County Medical Society met in Higginsville, December 14. The meeting was called to order by Dr. R. C. Schooley, of Odessa, 1st vice president, Dr. Lewis Carthrae, Jr., being ill. The minutes of the last meeting were read and approved.

Dr. Chas. H. Allen, of Independence, read a paper on "Chronic Catarrhal Deafness and Post Nasal Obstruction."

Dr. Clark, of Kansas City, read a paper on "Head-ache Due to Ocular Conditions."

The discussion on both papers was very active.

The following officers were elected for 1927: President, W. E. Koppenbrink, Higginsville; 1st vice president, R. C. Schooley, Odessa; 2nd vice president, J. Q. Cope, Lexington; secretary-treasurer, Edmund Lissack, Concordia; board of censors: J. W. Horner, Alma; W. A. Braecklein, Higginsville; J. Q. Cope, Lexington. Delegate, J. W. Horner, Alma; Alternate, W. A. Braecklein, Higginsville.

The following were present: Drs. Chas. H. Allen, Independence; Clark, Kansas City; Edmund Lissack, Concordia; R. C. Schooley, Odessa; W. A. Braecklein, Higginsville; J. W. Horner, Alma; W. E. Martin, Odessa; J. B. Willis, Mayview; C. T. Ryland, Lexington; W. C. Webb, Higginsville; W. E.

Koppenbrink, Higginsville; also Drs. Haughey and Hoefler, of Odessa, visitors.

EDMUND LISSACK, M.D., Secretary.

NODAWAY COUNTY MEDICAL SOCIETY

The Nodaway County Medical Society held its regular meeting at the County Health Office, Maryville, December 10.

Dr. C. C. Conover, Kansas City, read a paper on "Endarteritis and Its Possible Cause of Subsequent Hypertension," with lantern slide demonstrations.

Dr. Homer Beal, also of Kansas City, gave a formal talk on his clinical work in the ear, nose and throat service at the General and Mercy Hospitals of Kansas City.

The officers elected for the ensuing year were: C. D. Humbert, Barnard, president; R. C. Person, Maryville, vice president; H. S. Dowell, Maryville, secretary.

H. S. Dowell, Maryville, was appointed delegate to the meeting of the State Medical Association to be held at Sedalia, and C. P. Fryer, Maryville, was appointed alternate.

H. S. DOWELL, M.D., Secretary.

SALINE COUNTY MEDICAL SOCIETY

After a luncheon with the Auxiliary the Saline County Medical Society was called to order by President Coffman, in the dining room of the Ruff Hotel, at Marshall, December 8, at one thirty p. m.

The routine business having been passed a very interesting paper on "Focal Infections" was read by Dr. G. A. Aikin, Marshall, and an hour was spent in discussion by all the members present.

The following officers were elected for the ensuing year: F. A. Howard, Slater, president; G. S. Hardin, Marshall, 1st vice president; John H. Owens, Sweet Springs, 2nd vice president; H. R. Conway, Marshall, secretary-treasurer. The following were elected to the board of censors: George A. Aikin, Marshall; Wallace M. Bickford, Marshall; David F. Manning, Marshall. The advisory board to the trustees of the Fitzgibbons Memorial Hospital was not changed.

The President-Elect, Dr. F. A. Howard, made an earnest talk, asking for the support of all the members in making this a banner year in the annals of the Society, stressing the importance of good programs and asking permission to study over the appointment of a program committee.

Twelve members were present.

H. R. CONWAY, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The St. Louis County Medical Society held its annual dinner and election of officers at Van Horn's Farm on Wednesday evening, December 15, 1926. About sixty doctors and their families gathered and partook of a splendid chicken dinner, during and after which dancing and speeches were enjoyed.

The business of electing officers for the coming year resulted in the election of Dr. H. N. Corley, Webster Groves, president; Dr. C. E. Barnett, Kirkwood, was elected vice president; Dr. C. C. Irick, Webster Groves, was chosen for secretary and treasurer; Dr. R. B. Denny, Creve Coeur, was elected delegate and Dr. Horine Miles, Webster Groves, alternate; Dr. W. F. O'Malley, Webster Groves, was elected censor.

Dr. Marshall Baker of Webster Groves, who is now incapacitated by illness, was elected an Honor Member as he has always been an active and faithful member of the society.

Dr. O. D. Seabaugh, Kirkwood, was elected to membership in the Society.

Dr. J. A. Townsend, the president, called upon one of the guests, Dr. Percy Swahlen, St. Louis, who responded with a number of entertaining anecdotes and complimented the society upon its splendid spirit and good-fellowship. The president-elect, Dr. Corley, made a short speech and a number of the other members who were called upon responded with short talks.

The Women's Auxiliary and its work were discussed at length by the members of the Auxiliary and the doctors present, and those ladies present who were not members were urged to join and become better acquainted with each other.

During the past year, the Society has had four social functions, the attendance always being good and the members have always had a most enjoyable time. Plans for the coming year will include at least this number and every member was urged to make it a point to be present at each one.

After the Society had passed a final motion in which the president and the secretary-treasurer and other officers were praised for their splendid work of the past year, the meeting adjourned and the remainder of the evening was spent in dancing.

Everybody went home satisfied that the evening had resulted in a better understanding of his fellow physician and that harmony and good will would prevail throughout the new year.

C. P. DYER, M.D., Secretary.

ST. LOUIS MEDICAL SOCIETY

Meeting of November 16, 1926

The meeting was called to order at 8:40 p. m. by the president, Dr. Amand Ravold. The minutes of the previous meeting were read and approved.

The scientific program consisted of the following: "Is There a Fracture Problem: If So, What Is the Solution?" by Dr. Norville Wallace Sharpe.

Discussion by Drs. Howard W. Barker, Allan J. McLaughlin, Louis H. Burlingham, John C. Morfit, Wm. T. Coughlin, Glover H. Copher, Martin Van Raalte, F. A. Jostes, J. E. Wheeler, W. R. Rainey, L. G. Harney, Col. Ernest G. Bingham.

Dr. Morfit presented the following resolutions and moved their adoption. Seconded by Dr. E. V. Kring. Carried.

Resolved, That the St. Louis Medical Society views with approbation the constructive work of the fracture committee of the American College of Surgeons and urges that further effort be made in this field. It is believed that this work on the fracture problem should prove of great value in the major hospitals of metropolitan centers, in hospitals drawing their clientele from industrial areas, and during war time in the stabilized hospitals of the theatre of operations; and be it further

Resolved, That a copy of these resolutions be forwarded to the Director General of the American College of Surgeons.

Attendance 132.

Meeting of November 23, 1926

The meeting was called to order at 8:45 p. m. by the president, Dr. Amand Ravold. The minutes of the previous meeting were read and approved.

The scientific program for the evening consisted of the following:

"Enlarged Spleen in Measles," by Dr. Adrien S. Bleyer.

Discussion by Drs. Park J. White, C. H. Neilson, Amand Ravold; Dr. Bleyer closing.

"Neurological Surgery," by Dr. Wm. E. Leighton.

Discussion by Drs. Wm. W. Graves, Ernest Sachs; Dr. Leighton closing.

Attendance 78.

Meeting of November 30, 1926

The meeting was called to order at 8:35 p. m. by

the president, Dr. Amand Ravold. The minutes of the previous meeting and results of the election were read and approved.

The scientific program for the evening consisted of the following:

"The Problem of Subclavian Aneurysm; Ligation of Artery at First Division," with presentation of patient, by Dr. W. C. G. Kirchner.

Discussion by Drs. C. F. Sherwin, Wm. T. Coughlin, Francis Reder, Roland Hill; Dr. Kirchner closing.

"Trachelolaparotomy (DeLee) for Placenta Previa," with report of a case, by Dr. Frank Hinchey.

Discussion by Drs. Wm. Kerwin, S. Mazius, George Gellhorn, Francis Reder.

"Treatment of Vaginal Discharge," with lantern slide demonstration, by Dr. George Gellhorn.

Discussion led by Drs. John R. Vaughan, Norville Wallace Sharpe, Amand Ravold; Dr. Gellhorn closing.

Attendance 184.

New officers elected were: President, Charles A. Vosburgh; 1st vice president, John Green; 2nd vice president, Wm. H. Mook; secretary, Roland S. Kieffer; councilors (three year term), Amand Ravold, John C. Morfit, Francis Reder, Edwin C. Funsch; delegates (two year term), Cyrus E. Burford, Wm. T. Coughlin, Wm. W. Graves, Robert S. Schluter, Joseph Grindon, Amand Ravold, Wm. E. Leighton, M. B. Clopton, John C. Morfit, Wm. H. Vogt.

E. C. FUNSCH, M.D., Secretary.

WOMEN'S AUXILIARY

OFFICERS 1925-1926

President, Mrs. A. B. McGlothlan, St. Joseph.

President-Elect, Mrs. W. M. Bickford, Marshall.

Chairman of Organization, Mrs. Willard Bartlett, St. Louis.

1st Vice President, Mrs. A. W. McAlester, Kansas City.

2nd Vice President, Mrs. Archer O'Reilly, St. Louis.

3rd Vice President, Mrs. M. P. Neal, Columbia.

4th Vice President, Mrs. Wm. Spaulding, Poplar Bluff.

Corresponding Secretary, Mrs. H. S. Conrad, St. Joseph.

Recording Secretary, Mrs. M. A. Hanna, Kansas City.

Treasurer, Mrs. C. T. Ryland, Lexington.

Directors: Mrs. Guy L. Noyes, Columbia; Mrs. Leland Boogher, St. Louis; Mrs. Geo. H. Hoxie, Kansas City; Mrs. Frank Hinchey, St. Louis; Mrs. Walter Baumgarten, St. Louis; Mrs. M. P. Overholser, Harrisonville; Mrs. H. F. Parker, Warrensburg; Mrs. R. W. Berrey, Mexico; Mrs. J. G. Montgomery, Kansas City; Mrs. W. F. O'Malley, Webster Groves.

TO PRESIDENTS OF STATE AUXILIARIES

Dr. John M. Dodson, Executive Secretary of the Bureau of Health and Public Instruction of the American Medical Association, under whose guidance the Chairman of the Committee on Education and Publicity of the Women's Auxiliary to the American Medical Association works, sent the following letter to the President of the National Auxiliary:

"I assure you that I feel it a privilege to be consulted by the Women's Auxiliary in regard to their program. That phase of the work of the American

Medical Association with which I have to do, namely, the medical and health education of the public, needs specially the help which these women can give to it as can no other group of persons. The education of the public to the right conception of health seems often a slow and tedious process, but it is the one sure way of obtaining the best results.

It is a real comfort to feel that a strong body of women as represented in the auxiliary societies can be counted on to promote in every possible way educational procedures."

This letter is being passed on to you to enable you to meet the objections of the many women who, while eligible to membership in the county and state auxiliaries are hesitating to join because they see no use for the organization.

The fact frequently overlooked is that while well governed cities are caring for the health of their people, rural communities have been slow to employ health workers and to pay for health protection—protection against disease.

Only about twelve per cent. of the rural population of the United States have anything approaching adequate health protection. Eighty eight per cent. of our rural population do not have the protection which people in well governed cities now have. Most of the children growing up in the rural districts are not getting a square deal. They are not having thrown around them the safeguards which most city children have.

For example, in the rural part of my own county, one of the richest agricultural sections in the State of Missouri, seventy five per cent. of the school children have never been vaccinated for smallpox. In the strictly rural schools (those located at the country crossroads) ninety seven per cent. of the children were, during the last year, found to have physical defects interfering with their normal development. In one school, less than twenty miles from Kansas City, out of thirty two children inspected recently by the county health unit workers, eleven were excluded for communicable disease (including ring worm, chickenpox and scarlet fever).

Such conditions are duplicated all over our country. Is not this reason enough for our existence as an organized group to assist in bringing about an improvement in living and health conditions?

The only possible solution of the problem is education and more education of the public.

It is recommended, therefore, that the state board of each state auxiliary be urged to undertake under the guidance of the state medical association, a study of its health conditions, and that it devise means of acquainting state auxiliary members with the result of the study and that educational work be based upon the conditions found.

In states where good health conditions exist, general knowledge of the fact will tend to prevent interruption of the excellent work and will be a source of satisfaction to the women of the state.

In those states where there is still much to be done, this investigation will indicate what sort of work needs doing first. (For example, the thirteen states which are not in the Birth Registration Area might well undertake the ninety per cent. birth registration problem.)

While public health protection depends upon an intelligent understanding of it and public demand for it, so to an even greater degree does individual well being depend upon a knowledge of the principles of health and right living. One of the most effective means of spreading the knowledge is the increase of the circulation of Hygeia. This should be considered the first duty of every state and county auxiliary.

If we are to be effective in this work of educating the public in health matters we must first educate

ourselves. The following outline is suggested for study for county auxiliaries.

Community Wide Conditions Which Affect Health

Milk. Milk standards, why necessary, and what milk standards your community needs. How are those needs being met?

Housing. Your community housing laws. Housing conditions as they developed under those laws and as they affect health. Improvement needed, General sanitation and its relation to the death and morbidity rate. Sewage disposal, water, garbage, flies, street cleaning, etc.

Health promotion. Prenatal care. Child welfare. Infant and preschool hygiene. This should include medical examination by the family doctor previous to school entrance and correction of remediable physical defects.

School hygiene. This should comprise provision for sanitary and hygienic school environment, periodic physical examination of school children, also training in health habits and education for health.

Mental hygiene. Methods of educating the public to the wisdom of general compliance with health regulations.

The importance and value of periodic examinations of the apparently healthy. (Every doctor and his family should lead in this work by setting the example.)

Control of communicable diseases. A survey of all private agencies doing health work in your community, and a discussion of the possibility and desirability of unifying all such work under the guidance of a scientific health department.

Using Missouri again for an example, it was found that the doctors' wives in some counties felt unable to prepare papers and talks on these topics for their meetings, because of lack of library facilities. The State Public Health Committee wrote and collected papers on those subjects to send to those county auxiliaries which could not or did not wish to prepare them for themselves. This was appreciated by a goodly number of county auxiliaries. The women who accompanied their husbands to the county and district society meetings were glad to have the papers to read and discuss while the doctors were in session.

Will you at your earliest convenience let me know what work our State Committee on Education and Publicity has undertaken so far, in order that all of us may have the value of your experience?

IDA SHAPER HOXIE, Chairman
Committee on Education and Publicity.

GENTRY COUNTY AUXILIARY

The Gentry County Medical Association and the Women's Auxiliary were jointly entertained at the home of Dr. and Mrs. J. N. Barger in Albany in December. The two associations had their business meetings separate.

Discussions were had in both meetings for the good of health work in our country. Diphtheria was the subject of the Auxiliary meeting. Diphtheria continues to be one of the most dreaded diseases and ranks with a high death rate among children. It can be blotted out by the right methods. We find the percentage of susceptible children in country districts higher than in cities. The Schick toxin anti-toxin test was discussed at length. No child is known to be safe until this test is given. The Schick test is made to find out if the child is likely to take diphtheria.

The subject of our next meeting will be vaccination against smallpox. These preventable diseases are hoped to be blotted out in our nation within a few years. The first great question which was

brought up before the League of Nations was that of contagious diseases.

Other subjects were discussed, one of which was the tubercular test of cows. Realizing that tuberculosis is a very dangerous disease and that dairy products are one of the chief sources of the disease many counties in our state have laws to enforce the tubercular test, but we regret Gentry county has not. Stanberry has a city law.

At the close of the two business meetings the doctors went from the office of Dr. Whiteley to join the Auxiliary at the home of Dr. and Mrs. Barger. The hospitable and commodious home of the host and hostess gave an atmosphere of cheer to the social hour. After a little informal music Mrs. Barger invited the presidents of the two organizations to lead the way into the dining room. The delightful luncheon invited many sparkling toasts of gratitude from the doctors. After all, they are not as stoic as we sometimes think, for we found that the turn-pike road to their hearts is through their mouths. Mrs. Barger knew the secret.

A limerick to "The Country Doctor," written for the occasion by Miss Lillie Rose, of Morristown, Tenn., was read by the president of the Auxiliary. It was given as a climax to an inspiring afternoon.

MRS. W. T. MARTIN, President.

SALINE COUNTY AUXILIARY

How a Health Conference Was Conducted

The Chamber of Commerce sponsored the child's clinic and it was held at the Chamber during the fall festival.

The president of the Women's Auxiliary of the Saline County Medical Society asked the president of the county medical society for permission to hold the clinic and for the co-operation of the medical society. This granted, the next step was to confer with the State Board of Health to arrange dates and for the services of a doctor and a nurse.

The county superintendent and the superintendent of the city schools were then requested to give the teachers permission to excuse the primary departments, so the children could be examined and not be counted absent from school if they should present a card signed by the nurse showing that they had been examined.

A publicity committee appointed by the Auxiliary prepared articles for the daily papers, asked the manager of the movies to run an announcement on the screen three afternoons and nights before and at each performance during the conference. This committee also sent notices to all the ministers to be read from their pulpits the Sunday preceding the conference.

Health posters from "Hygeia" were procured and placed in conspicuous places, the only cost for these posters being transportation charges.

The Metropolitan Life Insurance agent was of great assistance. He furnished a health film, arranged with the movie manager for showing it, presented much literature on various health subjects and furnished paper drinking cups.

A nurse was appointed to take charge of the clinic. The Chamber of Commerce furnished the necessary equipment, such as screens, tables, chairs, scales, soap, paper towels, pens, ink, etc.

The nurse appointed a transportation committee who brought the children from the schools or their homes to the clinic and returned them. The nurse in charge was assisted by a second nurse and by members of the Auxiliary.

The children were registered, weighed and ex-

amined by the physician in charge and the correction of defects advised.

An interesting piece of follow-up work will be to find out how many of the detected defects are corrected.

BOOK REVIEWS

GOULD'S MEDICAL DICTIONARY. By George M. Gould, A.M., M.D. Author of "An Illustrated Dictionary of Medicine, Biology, and Allied Sciences," "The Practitioner's Medical Dictionary," "Pocket Medical Dictionary," Etc. Edited by R. J. E. Scott, M.A., B.C.L., M.D. Fellow of the New York Academy of Medicine, Etc. 1926. P. Blakiston's Son & Co., Philadelphia, Pa. Price \$9.00.

This new edition of Gould's Medical Dictionary is a voluminous book containing 1398 pages with numerous illustrations. The first of Dr. Gould's Medical Dictionaries was published in 1890. Two years later a Pocket Medical Dictionary was published containing 12,000 words. This was succeeded by another work in 1894, entitled "An Illustrated Dictionary of Medicine, Biology, and Allied Sciences." Ten years later Gould published a supplement to the Illustrated Dictionary, containing 38,000 words. The present volume may be said to be the sum of all Gould's Dictionaries. The type is large and bold, and an interesting feature is the biographical data with illustrations of important personages in medicine. The work contains about 76,000 words, 5,000 of these being entirely new.

In gathering and arranging new words, it has been interesting to note that the majority fall readily into three classes; (1) Really new words, which express new ideas, inventions, or discoveries, words which represent a genuine addition both to science and to language; these, of course, are the most important, but, unfortunately, they constitute numerically the smallest of the three groups. (2) There is a steadily growing increase of proper names (Eponymic)—"so and so's" operation, or test, which quite frequently might more correctly be expressed as "so and so's modification of some-one else's" operation, or test; and, we may add in parenthesis, that very often the modification is of the slightest. (3) The largest class includes the long list of new remedies, with the large number of proprietary, patent, and other articles which, somehow, manage to get their names into current medical literature.

HUMAN PATHOLOGY. A Textbook. By Howard T. Karsner, M.D. Professor of Pathology, School of Medicine, Western Reserve University, Cleveland, Ohio. With an introduction by Simon Flexner, M.D. 20 Illustrations in color and 443 black and white. J. B. Lippincott Company, Philadelphia and London. Price \$10.00.

After all that may be said about applied pathology and chemical pathology and physiological pathology, the fact remains that when one writes a textbook of pathology he must stick to the fundamental facts of pathologic anatomy, for that is the "cream of the jest." No one yet has ever had the nerve to leave out the chapters on degeneration and necrosis and calcification although these subjects are taken up ad libitum time and again when we come to special pathology.

In the main then, a so called new textbook of pathology must base its appeal on the manner in which the old facts of morbid anatomy are handled, on the cleverness of the author's style, and on the lucidity with which certain of these facts may be interpreted in the causation and course of disease.

This book is to be praised from this angle. The text is well written and the discussion of moot points is clearly presented. Of especial importance in this book is the large list of references that closes each chapter. The reader feels that the author is thoroughly familiar with these references and that they are not merely dragged in by a hired secretary, for only the worthy are chosen. The illustrations of both gross and microscopical pathological specimens are well selected and well reproduced. And particularly to be noted is the fact that the book is not too voluminous to be useful both as a textbook for students of pathology and as a reference book for practitioners.

R. L. T.

PRACTICAL PHYSIOLOGICAL CHEMISTRY. A book designed for use in courses in practical physiological chemistry in schools of Medicine and of Science. By Philip B. Hawk, M.S., Ph.D. President of the Food Research Laboratories, Inc. New York City, and by Olaf Bergeim, M.S., Ph.D., Assistant Professor of Physiological Chemistry in the University of Illinois, College of Medicine, Chicago. Ninth Edition, Revised and Enlarged. With two full-page Plates of Absorption Spectra in colors, six additional full-page Color Plates and two hundred and seventy-three figures of which twelve are in colors. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, Pa. Price \$6.50.

This new edition brings Dr. Olaf Bergeim, of the University of Illinois, into co-authorship with Dr. Hawk. In addition to a most comprehensive and careful revision of the entire volume, entailing the complete re-writing of several chapters, there have been introduced several entirely new chapters and sections. The book represents the very best in the way of methods, theories, conclusions, etc., developed by the leading biochemists of the world.

Nearly one hundred new illustrations have been introduced including two new full-page colored plates.

As in former editions, the outstanding feature of the book is the comprehensive character and availability of its quantitative methods, which cover biochemical and clinical procedures. Throughout the book also are given numerous references to recent articles of importance. There is a vast wealth of selective material suited to courses of widely divergent characters, e. g., scientific, medical, dental, agricultural, pharmaceutical, household science, etc.

R. L. T.

GOITER AND OTHER DISEASES OF THE THYROID GLAND.

By Arnold S. Jackson, M.D., Jackson Clinic, Madison, Wis. With 151 Illustrations. Paul B. Hoeber, Inc., New York. 1926. Price \$10.00.

Arnold Jackson says in his book that he wants to dispel the idea that the goiter of youth is merely a physiological enlargement of the thyroid gland which in time would be spontaneously cured. He regrets that many cases are not properly diagnosed and therefore are improperly treated.

He emphasizes his belief that iodine is a preventive for goiter and should be given to all children between 8 and 20 years of age living in a goiter belt. He believes that iodine has no permanent effect in the treatment of colloid goiter but is of the opinion that iodine hyperthyroidism may be easily induced and thinks iodine may retard the growth of an adenoma before the age of 21 years has been reached. Plummer, he says, has clearly differentiated the clinical picture of exophthalmic goiter and toxic adenoma of the thyroid.

The book is exceptionally useful to the general practitioner and a good reference handbook for the student or teacher. It is a compilation of the valu-

able facts and ideas taken from the findings of many authors and collaborated into his own experience, which has been sufficient to warrant his having worked out this volume.

The chapter on "Classification and Diagnosis" is clear cut and without the usual verbosity and incoherency found in many textbooks. The chapter on "Medical Treatment of Goiter" is sane and very easily assimilable. It answers the questions that are often asked relative to this subject by the patient of his doctor.

The chapter on "Iodine Hyperthyroidism" certainly leaves no doubt in the mind of the casual reader of the entity of this condition. However, some of the more experienced readers may be less thoroughly convinced of the development of iodine hyperthyroidism than is the author.

The only criticism the reviewer has to offer on the chapter on technique is that the pictures show the ribbon muscles to be clamped and cut. This is done less and less year by year and is now the exception rather than the rule with most surgeons.

Taken as a whole, Arnold Jackson's book is, in the reviewer's opinion, one of the best written as well as one of the broadest and most valuable books on the subject of diseases of the thyroid that has been written in English, and is well worth owning.

K. W. K.

ELECTROTHERMIC METHODS IN THE TREATMENT OF NEOPLASTIC DISEASES. By J. Douglas Morgan, B.A., M.D. Formerly Radiologist, Ross Pavilion, Royal Victoria Hospital, Montreal, etc. Illustrated with 36 Line and Half-Tone Engravings. Philadelphia. F. A. Davis Company, Publishers. 1926. Price \$2.50.

Chapter 1 deals with electricity, first principles and definitions. The used definitions of electric current and electric cell and battery is explained in a simple manner. Chapter 2 gives the chemical and physical effects of currents. Chapter 3 explains the surgical diathermy, its history, terminology and uses. Another chapter explains the apparatus used in high frequency and diathermic units. Chapter 5 gives a short explanation of electrodesiccation with a number of illustrations of instruments and the mode of doing the work in the bladder.

Cancer is given some consideration. Ulcers and caruncles, hemorrhoids and moles are explained and the manner of treatment shown.

Electrocoagulation is well gone into and a number of explanatory plates are shown which will help the beginner in the work very materially.

A short summary of combined methods of treatments is given.

The cutting of tissues by the electric current is fully but shortly explained.

The book is small, but has many things of interest to the beginner in the use of electric methods in the treatment of neoplastic diseases.

E. H. K.

NASAL ACCESSORY SINUSES. Pathology and Treatment of the Inflammatory Diseases of. By Prof. Dr. M. Hajek, Chief of the Laryngo-Rhino-Otological Clinic, University of Vienna. Translated and Edited by Joseph D. Heitger, A.B., M.D., Louisville, Kentucky, and French K. Hansel, M.D., M.S., St. Louis, Missouri. Fifth Edition, Completely Revised and Enlarged. Volumes 1 and 2. St. Louis, Missouri. The C. V. Mosby Company, 1926. Price \$17.00.

The English speaking rhinologists are deeply indebted to Drs. Heitger and Hansel for their excellent translation of Dr. Hajek's work on the nasal accessory sinuses.

For forty years Hajek has been a recognized

world authority on diseases of the nasal accessory sinuses and it is remarkable that such a work could still hold the unique position of leading the field when brought out in its fifth edition.

Not only are most of Hajek's original ideas still acceptable, but he has filled the book with convenient and accurate footnotes which extract all that is worth while from the modern literature on accessory nasal sinus disease.

The well deserved self confidence of the man is illustrated by the following extract from his discussion of the results of the radical Killian operation (Vol. 2, p. 406): "During the last ten years I have seen in some of the cases operated upon by me, *more however*, in those operated by others, partial recurrences even three to five years after operation."

Medicine has made such rapid strides in the past thirty years that it is a bit difficult to appreciate the clinical case reports which are dated in the early nineties. However, they are concise and instructive.

The anatomy and operative procedures are well illustrated and the practical points of the various operations are well brought out.

In reading the book one cannot help but realize the immense amount of work which was involved and that Dr. Hajek has given us the results of a mature and honest judgment formed by close study during forty years of a very busy life. O. J. D.

ENDOCRINE MEDICINE, The Principles and Practice of. By William Nathaniel Berkeley, Ph.D., M.D. Formerly Director of the Laboratory of Experimental Medicine, Cornell University Medical College. Illustrated. Lea & Febiger. Philadelphia and New York. 1926. Price \$4.50.

This volume is an epitome of the existing knowledge of endocrinology written by a research worker of distinction and not by an "office desk scientist" saturated with ill digested second hand information. All the known facts are presented, clearly and concisely by a skillful writer who has the enviable faculty of saying the most possible in the least possible and happiest phraseology. The author in his preface says, "The book is primarily meant for doctors in active practice. The standpoint of the writer is that of the clinical practitioner, the physician in the presence of a patient with endocrine disorder. Symptoms and diagnosis are discussed at length and treatment is emphasized. Many details of treatment and dosage are given which have been heretofore inaccessible in print in any language."

The book is divided into fifteen chapters. The first two are devoted to the autonomic nervous system and basal metabolism, the remainder, beginning with the thyroid, to a brief and clear cut discussion of the existing knowledge of the different glands of the body. The principles of endocrinology are clearly set forth and the treatment suggested is intelligent and scientific. The result is a volume that can be highly recommended. It is well printed and neatly bound and there is a full index of authors and subjects. A. R.

SURGERY OF NEOPLASTIC DISEASES BY ELECTROTHERMIC METHODS. By George A. Wyeth, M.D., New York. Preface by Howard A. Kelly, M.D., Baltimore. With 137 Illustrations. Paul B. Hoeber, Inc., New York. 1926. Price \$7.50.

Dealing strictly with surgical endothermy and not medical diathermy this book sets forth what is being done with high frequency currents in the surgical treatment of accessible malignancy, and assists in clarifying obsolete and vague terminology which heretofore seemed to confuse rather than to enlighten.

The author's simple classification of endothermy

under three separate headings of unipolar currents, bipolar currents and the use of the endothermy knife should be adopted by all interested in surgical and nonsurgical treatment of disease.

The secret of the treatise lies in the application of a new method of treating neoplasms by the use of the endothermy knife, in which the author utilizes the three element radio vacuum tube current to produce a cutting effect on tissue. This newer method, which causes dissolution of tissues, seals the lymphatics, prevents hemorrhage and reduces scar formation, will unquestionably receive a prominent place in the surgical treatment of disease.

The book teems with excerpts from the opinion of leading medical men in this country and on the continent, and contains a comprehensive, up-to-date bibliography of high frequency currents.

A separate chapter on high frequency currents, by Dr. A. Mutscheller, is presented in a very simple, concise and ingenious manner which makes it understandable to the novice.

The book is all that the author claims when he states that it is developing a new surgery in the treatment of accessible neoplastic disease.

The reviewer unequivocally endorses this valuable asset to medicine and surgery. A. C. C.

THE SURGICAL CLINICS OF NORTH AMERICA. Volume VI, Number 2 (San Francisco Number—April, 1926.) 250 pages with 73 illustrations. W. B. Saunders Company, Philadelphia.

This volume maintains the general high standard of clinical reports established by the Surgical Clinics. It contains the cases studied in the clinics of the San Francisco Hospitals.

THE PRACTICAL MEDICINE SERIES. Under the General Editorial Charge of Charles L. Mix, A.M., M.D. General Medicine. Series 1926. The Year Book Publishers, 304 South Dearborn street, Chicago. Price \$3.00.

This well known yearly review of the field of medicine covers in this volume the subjects of infectious diseases, diseases of the chest, diseases of the heart and kidney, diseases of the gastro-intestinal tract and diseases of metabolism.

The abstracts are well chosen and well arranged and the latest developments of proven value are at the disposal of the practicing physician in this volume. R. L. T.

DISEASES OF CHILDREN. A short introduction to their study. By Hector Charles Cameron, M.A., M.D., (Cantab.), F.R.C.P. (Lon.), Physician and Physician in Charge of the Department for the Diseases of Children, Guy's Hospital. 1926. Oxford University Press. American Branch, 35 W. 32nd St., New York. Price \$1.75.

Anyone expecting to find this "handbook" another futile attempt to cram the science and art of pediatrics into a tabloid "compend" will be most agreeably surprised. The author says: "I am not asked to write a textbook in miniature, but to discuss the subject, to define its scope, and to lay stress upon those features which may justify its claim for special study." Thus the reader finds instead of condensed pabulum for the harried medical student certain valuable reflections of a mature pediatrician and excellent writer on those aspects of disease in childhood which warrant our ranking pediatrics as a specialty worthy of the name.

An internist friend of mine once assured me that he could take at least as good care of a baby as I could, adding that it was only laziness on my part that led me to refuse to see adult patients. Though I might be induced to admit the former, I shall never

plead guilty to the latter. Now, Dr. Cameron, probably without the stimulus of such libel, has produced an apologia for the specialty of pediatrics as interesting as it is convincing. His chapters include such subjects as, special aspects of disease in childhood; diseases of the newly born; breast-feeding; sleeplessness and nervous unrest in infancy; catarrhal infection; vomiting; diarrhea; constipation; inherited predisposition to disease; conduct and management and their effect on health; surgery; backwardness and convulsions; diet.

The book is particularly to be recommended to those considering the choice of pediatrics as a specialty. It cannot fail to interest any medical person with the welfare of children at heart.

P. J. W.

THE HEART. By Alexander George Gibson, D.M., F.R.C.P. (Lond.) Physician to the Radcliffe Infirmary. Oxford University Press. American Branch, 35 W. 32nd St., New York City. Price \$1.50.

This is a triumph of compression. In the compass of a hundred small pages, the author surveys briefly the anatomy and physiology of the heart, the important point to be observed in the clinical examination of the patient, the instrumental methods of examination, the chief diseases and disorders of the heart, the principles of prognosis and those of treatment. The book is as far removed as possible from being a mere compend. Charmingly written, it embodies the rich clinical experience of its author. Under these circumstances it is inevitable that the relative space devoted to various aspects of his subject will occasionally reflect rather the author's predilections than the real importance of the topic. Thus the discussion of polygraphic records receives five pages, the electrocardiogram three and X-ray diagnosis only one.

The instructions for taking the blood pressure sound strange to American ears. "No sound is heard until a certain degree of pressure is put in the armlet, and as it is gradually raised the sound at each beat reaches a maximum and then begins to fade in intensity until it disappears; the point of maximum intensity of the sound is the minimum blood pressure, and when the sound disappears is the maximum."

A. E. T.

THE ABDOMEN IN LABOUR. Being a General Practitioner's clinical study of the parturient abdomen. By Norman Porritt, M.R.C.S., L.R.C.P. (Lond.) Consulting Surgeon, Huddersfield Royal Infirmary. Oxford University Press. American Branch, 35 W. 32nd St., New York City. Price \$1.75.

This is an essay which was awarded the Sir Charles Hastings Prize of the British Medical Association, 1926.

Crude methods of abdominal palpation had no doubt been practiced from the earliest antiquity, but its advantages were first pointed out by Roederer, Wigand and Hohl as late as the latter part of the eighteenth and the early part of the nineteenth century. Its practical importance, however, was not generally recognized until 1878 when Pinard published his work after which the method became more or less popular in France, but it was not employed systematically in Germany and in America until Credé and Leopold had urged its value in about 1892. In the last twenty five years all American obstetricians have been practicing and teaching this method.

Aware of these conditions, it seems surprising to the reviewer that this was not the universal practice in England. The small book of less than one hundred pages is a plea for more systematic abdominal examination and observation of what is

going on in the abdomen during labor. The left lateral position for delivery of the parturient woman, as generally practiced in England, is condemned because of the inability of the obstetrician to make the necessary abdominal palpations and observations.

The author's detailed description of the methods apparently still in use in England of determining exclusively by the condition of the cervix whether the woman is in labor is interesting but naturally of no value to the student and practitioner of this country where abdominal examinations are a routine. Much space is devoted to the advantages of abdominal examinations describing the ease with which the positions of the fetus, excessive amniotic fluid, etc., can be determined, but the author admits his inability to feel and trace the head through the pelvis in most cases of advanced labor. He says that he lacks the tactile sensibility or has not mastered the technique of the different grips.

He claims that the presence of twin pregnancies is rarely suspected till after the birth of the first child, and he imagines that the detection of two children in the abdomen must be difficult. We all admit the difficulty which is at times experienced in making a diagnosis of twin pregnancy, but a multiple pregnancy whether two or more fetuses should rarely escape a careful observation before labor.

The essay gives to the American nothing new. Our students are thoroughly drilled in abdominal examinations and we are sure that they would not be guilty of neglecting or disregarding this most important mode of examination as a necessary part of the care and management of the pregnant and parturient woman.

W. H. V.

UROLOGY. By Oswald Swinney Lowsley, A.B., M.D., F.A.C.S., Director of the Department of Urology (James Buchanan Brady Foundation) of the New York Hospital, etc., and Thomas Joseph Kirwin, Ph.C., B.S., M.A., M.D., Chief of Clinic of the Department of Urology (James Buchanan Brady Foundation) of the New York Hospital, etc. Illustrated with 233 Engravings and 13 Plates. Lea & Febiger. Philadelphia and New York. 1926. Price \$10.00.

The authors of this textbook are men of experience with access to an abundance of clinical material for years. The many citations in the text and the complete bibliography which concludes each subject treated give evidence that they not only have drawn from their own personal observation but have used the observation of other leaders and thinkers in the field of urology. So this book is urology brought down to date in a single volume.

The illustrations are new, plentiful and to the point. Another of the pleasing features is the short but comprehensive chapter on embryology, which opens and acts as an introduction to each anatomical subject. It is a splendid book for students, those practicing general medicine, as well as for the urologists.

C. S. C.

THORACIC SURGERY. The Surgical Treatment of Thoracic Disease. By Howard Lilienthal, M.D., Professor of Clinical Surgery at Cornell University Medical School. Two volumes. Philadelphia and London. W. B. Saunders Company. 1925. Vols. I and II. Price \$20.00.

Howard Lilienthal, of New York, has made an excellent contribution to literature in his two volumes on thoracic surgery. To his own work he has added well selected monographs of his contemporaries. He has given due consideration to the literature and repeated mention of his co-workers.

The two volumes contain sufficient physiology, pathology and surgical anatomy. The lucid surgical

procedure are well illustrated and are followed by case reports, with their progress, that highly recommend the author.
J. G. M.

THE HUMAN BODY. By Marie Carmichael Stopes, Doctor of Science, London. With 53 Illustrations and Color Plates. G. P. Putnam's Sons, New York, London. 1926. Price \$2.50.

In the few hundred pages of this book Dr. Stopes has sketched in a popular manner the more important of the body's organs and functions. But this simple style, although obviously intended for the lay reader should not deceive one of more scientific training as to its qualifications and purposes. For instead of detailing a mass of anatomical facts, this book attempts to evolve the purpose of our structure; and more than representing the mere apparatus of life it depicts a philosophy of living.

As such it may be recommended to earnest minds as a well written and generally correct discussion of the fundamentals of the human body.
P. S. L.

MANSON'S TROPICAL DISEASES. A Manual of the Diseases of Warm Climates. Edited by Philip H. Manson-Bahr, M.A., M.D., F.R.C.P. Lond. Physician to the Hospital for Tropical Diseases, London, and the Albert Dock Hospital. Eighth Edition, Revised. William Wood and Company, New York City. Price \$11.00.

Since the last edition of this well known work Sir Patrick Manson, the original author, has died. This edition represents a drastic revision of the seventh edition and so contains much new material although the book is shorter than the last by seventy pages.

This work is a very satisfactory treatise on tropical medicine, especially from the clinical standpoint. The text is easily read. The illustrations are excellent. It will certainly be found on the desk of every one interested in the study of tropical medicine.
R. L. H.

THE PHARMACOPOEIA OF THE UNITED STATES OF AMERICA. Tenth Decennial Revision. (U.S.P.X.)

By the authority of the United States Pharmacopoeial Convention held at Washington, D. C., May 11, 1920. Prepared by the Committee of Revision and published by the Board of Trustees. Official from January 1, 1926. J. B. Lippincott Company. Philadelphia, Pa.

The general committee in charge of this revision have wisely left to the physicians of the committee the responsibility of finally deciding the admission of therapeutically active substances. Many preparations of no medical value have been dropped. A few have been added. The term "cubic centimeter" is again used to indicate the one-thousand part of a liter instead of the term "mil" which was employed in the preceding edition.
R. L. H.

MODERN CLINICAL SYPHILOLOGY. By John H. Stokes, M.D. Professor of Dermatology and Syphilology in the School of Medicine, University of Pennsylvania; Professor in the Graduate School of Medicine, University of Pennsylvania. Octavo of 1444 pages with 885 illustrations and text figures and more than 200 detailed case histories. Philadelphia and London. W. B. Saunders Company. 1926. Cloth. \$12.00 net.

Stokes' contribution on syphilology represents by far the most exhaustive monograph in American literature. The large number of case records available at the Mayo Clinic are incorporated in each chapter devoted to syphilis of the various organs. Ordinary routine procedures of both diagnostic and therapeutic use are described in detail.

Many syphilographers may hesitate to accept Stokes' radical use concerning the management of leukoplakia buccalis and lingualis and question his apparent optimism concerning the use of organic arsenic.

The fact remains that in the main Stokes' contribution deserves serious consideration and study from every practitioner.
P. F. S.

FUNDAMENTALS OF DERMATOLOGY. By Alfred Schalek, M.D. Professor of Dermatology and Syphilology, University of Nebraska College of Medicine, etc. Illustrated with 54 engravings. Lea & Febiger. Philadelphia and New York. 1926. Price \$3.00.

This outline of dermatology should fill a need among students and others who desire a review of the essentials of dermatology. The diseases are alphabetically arranged and the subjects briefly but adequately treated. The list of dermatological aphorisms is a useful addition to the book.

The book is well written and fills its mission as an outline of the fundamentals of dermatology.

There are a few minor erroneous statements. On page 70 the author states "that creeping eruption is rare in the United States." Kirby-Smith has recently reported a large number of cases from Florida and the Gulf states. On page 113 the statement is made that "erythema nodosum is probably an angioneurosis of toxic origin." This disease is considered by most authorities to be a periphlebitis. The author has omitted several important recent additions to therapy. They are: the Davis and Davis treatment and the use of mercurochrome in pemphigus, the use of yeast in pellagra, ultraviolet in X-ray dermatitis, and the use of nonspecific therapy in syphilis.
N. T.

FLUOROSCOPIC VISUALIZATION OF TUBAL PERISTALSIS IN WOMEN

Lipiodol was used by I. C. Rubin and A. J. Bendick, New York (*Journal A. M. A.*, Aug. 28, 1926), as the medium for study of women with tubal obstruction as previously demonstrated by gas insufflation. Not only were roentgenograms taken of the tubes, but direct fluoroscopic observation made it possible to watch the fluid in the uterus and tubes. It was thus possible to note also whether peristalsis was present. Twenty six patients were observed. With the exception of two cases, 5 cc. of the fluid was sufficient to fill the uterine cavity and the tubes to full length. In two cases the uterine cavity held more than 5 cc., and the quantity used was double. The results of the examination in the first two of the twenty six cases were not clear, but they were useful in indicating points in technic to which special attention had to be paid in subsequent cases. The present report is based on data obtained in the remaining twenty four cases. Of these, seven were blocked close to the uterine wall. In seventeen cases, one or both tubes were visualized. Fifteen of these showed peristalsis which could actually be watched under the fluoroscope and evidence obtained on the films by the distinct beading which Dyroff described as "pearls." The lipiodol has been either removed by aspiration, or the little that remained in the uterine cavity was found to escape almost immediately after the cannula was removed. In the tubes the lipiodol may remain a fairly long time if the obstruction at any point is complete or only partial. This is especially true when cystic dilatation of the tubes is present. In a few cases, the lipiodol was seen lodged in the tubes several months after the injection, but no symptoms referable to its presence were noted.

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ORIGINAL ARTICLES

OBSTRUCTION OF THE ESOPHAGUS*

REPORT OF CASES

C. A. W. ZIMMERMANN, M.D.

CAPE GIRARDEAU, MO.

The esophagus is that portion of the alimentary canal which extends from the pharynx to the stomach. Of an average length of 25 cm. this tubular organ is quite well hidden away among important structures with which it is in close relationship. Its caliber is not uniform throughout, since it is contracted¹ at its commencement opposite the sixth cervical vertebra, again behind the left bronchus and again as it passes through the diaphragm opposite the upper border of the eleventh thoracic vertebra. Carman and Miller² properly name two more constrictions, one at the aortic arch and one at the cardiac opening.

The esophagus is built of four different coats: The mucous, submucous, muscular and fibrous. Two of these coats merit special attention; the mucous which, we are reminded, carries a stratified squamous epithelium and has mucous glands opening upon its surface, important when we are considering malignancies; and the muscular one. This latter is noteworthy by reason of the character and distribution of its cells in that the upper segment is occupied by striped cells, the lower segment possessing unstriped cells and the middle segment a mixture of the two.

If the esophagus has any other physiological function than being the conveyor of food from the mouth to stomach through the act of swallowing it has not been mentioned by physiologists.

Swallowing is a reflex act, somewhat complex in that it can be begun voluntarily but not controlled once it is in good progress. The centrifugal and centripetal nerves concerned in the reflex are the trigeminal, glossopharyngeal, vagus, superior laryngeal division of the vagus and spinal accessory.³ Proof that the peristal-

tic waves of the esophagus are in fact governed by the nervous system is shown in the experiment of severing the tube and observing the uninterrupted wave artificially excited.⁴ During the act of swallowing food traverses the first portion of the journey very rapidly, progress being slower the nearer the stomach is approached. Frequently, under normal conditions, there is a distinct hesitation of a barium meal at the cardiac sphincter. The difference in speed alluded to is due to the nature of the muscle cell distribution. The progress of solid food is generally synchronous with the peristaltic wave, whereas liquids often pass more rapidly, preceding the wave.

The esophagus is not immune to diseased states. The pathology may be inherent primarily or there can be an encroachment of pathology in neighboring organs. Discussion will be confined to those diseases which are associated with or followed by obstruction.

Congenital obstruction is not common. It may be partial or complete involving most frequently the proximal portion of the tube. It is a malformation and finds its analogy in atresia ani. Patients thus afflicted die so early that there is no time for studying them.

Swallowing of corrosives generally causes destruction of tissues to such a depth that extensive scar formation follows with consequent stricture. In cases of this type it is well to remember the stricture is usually in the upper segment of the tube.

Strictures of the esophagus have been reported as having followed in the wake of ulcerations of various types. Struempell⁵ reports stricture after a diphtheritic ulcer. Dr. Boas⁶ demonstrated a patient suffering from an esophageal stricture 34 cm. from the dental margin, which occurred at the conclusion of a severe attack of scarlet fever. Syphilitic and tuberculous ulcers are more common and may also be followed by stricture. In chronic illnesses the ulcer of decubitus has been described⁷ as occurring opposite the cricoid cartilage in pairs. Typhoid fever and smallpox have given rise to ulcers followed by stricture. Quinke is generally quoted as having described a deforming lesion near the cardiac

* Read before the Southeast Missouri Medical Association, Cape Girardeau, October 12, 1926.

termination of the esophagus which he named peptic ulcer. The theory was, that regurgitating gastric juice brought about digestion of the mucosa. Perhaps today Quincke would be willing to admit this to be the result of an embolism originating from some focus of infection remotely located.

Lodged foreign bodies are given as the most frequent causes of obstruction of the esophagus. Eichhorst⁸ cites the case of a man who had lost his dental plate during the night. Eventually he sought medical aid for disturbance of deglutition. He died from a perforating ulcer of the esophagus and the plate was found at autopsy. Bones, meats, coins are other objects which have brought about esophageal obstruction.

Carcinoma deserves a prominent place in the etiology of the affliction under consideration. These growths, most frequently situated in the lower segment of the organ, take their origin from the lining epithelium and are firm and slow growing or soft and more rapid of growth, depending on whether they are rich or poor in connective tissue admixture. The scirrhus type is inclined to encircle the tube to partly or completely occlude it, whereas the medullary forms are more prone to grow parallel to the tube. The latter forms are more given to metastases.

Of extraneous causes of obstruction of the esophagus, aneurysm of the aorta is frequently mentioned. Caries of the vertebrae with abscess and tumors of any kind which project into the posterior mediastinum can be factors. Enlarged lymphatic glands, enlarged thyroid gland and empyemas and new growths figure by compressing the esophagus, while chronic inflammatory processes, as pleuritis, bring about obstruction by effecting distortion by traction.

I have observed a number of cases of obstruction of the esophagus of which I report six.

REPORT OF CASES

Case 1. Farmer aged 64 visited me February 18/28. Complaint: Difficulty in swallowing. Food will not always pass a certain point. Solid food as a rule is regurgitated undigested though pigs feet pass. Obstruction is more troublesome sometimes than others. After regurgitating food and the mucus which accompanies it, can swallow better for awhile. No hematemesis. Can eat large quantities of food twice daily with less discomfort than smaller portions thrice daily. Generally has a low, dull substernal pain and is often conscious of violent throbbing of his heart.

Present illness began gradually two years ago, the symptoms having been much the same in kind but milder in degree. Has grown progressively worse. Has lost twenty pounds in the two years.

Past history. Has never been seriously ill nor has he ever swallowed corrosives or foreign bodies.

Family history is unimportant.

General examination reveals nothing especially interesting. Heart, lungs, abdominal viscera and nervous system reveal no abnormalities. Temperature 98, pulse 80. Urine contains no albumin but Fehling's solution is reduced. There is a noticeable loss in weight; no edemas. An Ewald breakfast offered was taken with slight difficulty. An attempt to recover it at 30 minutes met with failure because tube stopped 18 inches from the dental line.

X-ray examination: Fluoroscopically the lung apices light up well, lung fields are fairly clear, diaphragm is smooth throughout, costophrenic angles sharp and clear, mobility free. Heart is normal in size and position, a dull oval in shape; rhythm regular, action free. Aorta normal.

Pap and barium meal passed without hesitation except that a very large gastric air bubble seemed to cause the meal to enter the stomach at an exaggerated angle. Stereoscopic films, taken just after some of the opaque meal, show a food column supported between the cardiac orifice and the upper border of the seventh thoracic vertebra. The proximal end is cut squarely off while the distal end is of a deformed acorn shape. Lateral views show more plainly a concentric constriction of the lower extremity of the esophagus.

February 19/25. An opaque meal filled up the esophagus more rapidly today than yesterday and fluoroscopically the meal could be seen as a trembling column sharply cut off above and as a deformed constriction distally. A film to be shown confirms these findings.

February 26/25. In general no change subjectively. Some days can swallow food which will not pass on others. Was given atropine and can swallow more readily thereafter. Has noticed improvement in past three days especially. If he attempts to drink with his food fills up more readily. Swal-



Fig. 1. Lateral view of case 1 showing extensive deformity of distal esophagus.

lows better when bowels are open than when constipated. Weight 129 lbs. Benzyl benzoate ordered.

March 9/25. Has eaten cabbage and other vegetables besides soft foods. Today ate a dinner of soup, hamburger sandwich and raisin pie without difficulty. Thinks he can swallow better, especially when eating slowly. Has more trouble in the morning than at night. Less trouble when hungry than when not. Weight 126½ lbs. Films as on February 18. Certainly carcinoma.

March 20. Feels so much better he will not listen to advice to have radium used. Has had difficulty but once since last visit, though there is always a "short check" of food at same site. Can eat better than he could for 18 months. Weight 127½, urine normal, stools contain no blood.

June 9, subjectively the same. Ordered to St. Louis for radium.

June 13. Letter from Barnes Hospital announces agreement in diagnosis and application of radium.

It has come to my notice that this man died some months ago; an inquiry of his wife as to detail states he suffered severe pain in his stomach during the last two months of his life and that he died from pain and starvation.

Case 2. Mr. H. G. S., aged 47, bookkeeper, visited me September 3/25. Epigastric pain radiating straight through to back. Difficulty in degluti-

tion; must take water after his solid food to wash it down. Rarely regurgitates undigested food. Also has a pain in left upper abdominal quadrant, rather constant and not definitely connected with taking food.

Present illness. Substernal pain is about 4 years old, having come on gradually and persisted. Pain in left upper quadrant and difficulty in deglutition began one year ago and have grown decidedly worse in the past six months during which time he has lost 12 pounds. Was being treated for gastritis.

Past history. Had typhoid fever at 18, was sick six weeks, suffered no complications. Denies venereal taint. Swallowed no corrosives.

Family history unimportant. Habits regular, usual, no excesses.

Physical examination. Patient is of short stature and hyposthenic habitus; slightly stooped posture. Mentally alert. Skin loose, moist and sallow but not cachectic. Musculature fairly well developed. Weight 118 lbs.

Digestive system. Appetite good, deglutition not painful but difficult, the passing of solid food requiring the aid of liquids. An epigastric pain is excited immediately after food and disappears gradually in 15 minutes. No nausea, belching or vomiting. Bowels move daily, adequately, unaided. Color and consistency of stool normal. No blood. Teeth are poorly kept and some teeth are in bad condition. Pharynx good. Abdomen below level. Some tenderness in epigastrium on pressure. No other painful areas. Kidney, liver, spleen not palpable. No masses, no herniæ.

Respiratory system. Sometimes coughs during meals; no sputum. Vocal cords approximate in midline synchronously. Voice normal. No physical signs denoting disease of bronchi, lungs or pleuræ.

Circulatory system. Complaints of occasional attacks of tachycardia. Pulse 90, regular, steady. Heart sounds clear, no murmurs. Second aortic sound accentuated. Apex in 5th space inside nipple line. No enlargement. There is a roughened sound over the aortic arch synchronous with heart systole. It is not transmitted plainly. No bruit or thrill. Right radial pulse stronger than the left but no asynchronism. No peripheral arteries sclerotic. S. P. 110, D. P. 80.

Genito-urinary system. Urinates 5 to 6 times daily, once at night; no pain urgency or tenemus. Urine normal.

Nervous system. Is not nervous and sleeps well when pain permits. Pupils are equal, react to light and accommodation. Tendon reflexes present alike on both sides normally. No ataxia; no sphincter disturbances.

No enlargement of lymphatic glands.

No blood count was made but blood was taken for a Wassermann and the report was returned September 9 4 plus.

Bones and joints. None swollen. Complaints of pain in iliosacral joints after a day's work. No physical findings.

September 4/25. Ewald test meal was offered and taken without difficulty. After 45 minutes an attempt to recover failed because tube stopped at 35 cm. Now admits he had a Neisserian infection as well as a chancre 20 years ago. K I given in increasing doses.

An X-ray examination yields interesting findings. Fluoroscopically lung fields are clear. Hili are moderately dense. Diaphragm is smooth, freely movable, costophrenic angles sharp and clear. Heart is small and almost perpendicular in position. The aorta



Fig. 2. Lateral view of case 2 showing tumor mass between the spinal column and esophagus, constricting the latter.



Fig. 3. Anteroposterior view case 2 showing dense tumor mass at level of 6th thoracic vertebra, et seq.

appears normal and in close association with, yet not a part of a round dense mass opposite the third costal cartilage, which mass does not pulsate. A barium and buttermilk meal hesitates at the upper portion of this mass then passes in front of it, very much narrowed in volume. No pulsation is transmitted to the food column. There is no need to describe progress of the meal beyond this point as it was in every way normal throughout the alimentary canal.

Films 14x17 taken in upright dorsoventral position display a slightly oval shadow bounded above by a line level with the upper border of the second costal cartilage and below by a line at level with the 5th costal cartilage and extending bilaterally as far as a line corresponding to the junctions of the ribs with their cartilages. The arch of the aorta seems in normal position. Heart shadow is almost perpendicular and not large. The esophagus (a

barium meal was given just previous to radiographing) can be traced. Level with the lower border of the second rib a fluid level is seen above the tumor. Distally the tumor compresses the esophagus so that a small funnel shaped canal in front of the tumor allows passage to the meal. Healed apical tuberculosis is also noted in these films. A lateral view shows the tumor mass apparently fused with the bodies of the vertebrae and lying behind the food column.

This patient was placed on vigorous antiluetic treatment, being at the point of ptyalism several times. The function of swallowing improved promptly and remained better. However, the tumor mass did not seem to become reduced materially and other symptoms arose which required management. At times the substernal pain was greatly exaggerated. On November 30 he did some heavy work following which he suffered from dyspnea on exertion for a number of weeks. There were no outstanding evidences of decompensation of his heart. On December 12 complained of pain in the thoracic spine. Examination revealed the 6th and 7th vertebrae tender. Stereoscopic roentgenograms reveal a right lordosis involving the 4th to the 8th thoracic vertebrae. Further, there is a dense shadow in such close relationship to the named bones as to appear as a callus does to a broken bony member. Besides, there is a shadow of lesser density but wider dimensions. It extends a little farther to the left than to the right and is most likely the silhouette of the aorta. There is no visible evidence of bone absorption or destruction otherwise.

On December 14/25 the Wassermann was again returned 4 plus. This man left my service and I do not know his present status.

Case 3. L. A., traction foreman, age 48, was referred to me for X-ray examination of his chest on December 24/25. My notes on the fluoroscopic examination follow: Apices do not light up very well. Lung fields have their homogeneity disturbed by dark masses extending into their parenchyma from the hili. This condition is more noticeable on the right side where a very dense tumor mass under the third rib extends to the midparenchyma and sends dense markings toward the periphery, especially laterally and downward. Diaphragm is smooth throughout, costophrenic angles are sharp and clear. Heart is in normal position, rhythm regular. The aortic shadow cannot be separated from the mass. Films show the pathology in greater detail and will be displayed. My conclusions at that time were tuberculosis of the hilar glands with extension into the lungs, which diagnosis was erroneous. In the middle of last September it was my pleasure to have had the opportunity to examine this man more closely in the Alice K. Schulz Hospital at the invitation of Dr. Schulz. The outstanding features were a deep jaundice and great enlargement of lymphatic glands of the neck, groin, axillae, together with a large irregular mass in the upper midabdomen which was so situated that it could be excluded as an enlargement of liver or pancreas. Spleen not palpable. The diagnosis of Hodgkin's disease with pressure of enlarged lymphatic glands in esophagus was made. This man complained that solid food would stick in his esophagus until liquids were taken to wash it down.

The diagnosis of Hodgkin's disease was confirmed by a microscopic examination of excised glands. The report read: "Sections from glands show an extremely marked interstitial fibrosis with masses of eosinophiles and an occasional Dorothy Reed cell. Diagnosis, Hodgkin's disease."⁹ The differential blood count was: Polymorphonuclear neutrophils 85 per cent.; Polymorphonuclear eosinophiles 1 per

cent.; Lymphocytes 5 per cent.; Transitionals 4 per cent.

Case 4. J. S., a boy about 5 years old, had placed a silver half dollar in his mouth and lost it. Thereafter he could not swallow. The X-ray plate revealed the coin in the upper segment of the esoph-

agus. I turned patient and my plates over to Dr. Arbuckle who recovered the coin and had lantern slide made from the plate which he kindly is allowing me to use.

Case 5. A male about 24 years old while eating hurriedly allowed a large morsel of beefsteak to es-



Fig. 4. Digitations from hilar tumor masses extending into the parenchyma. Case 3.

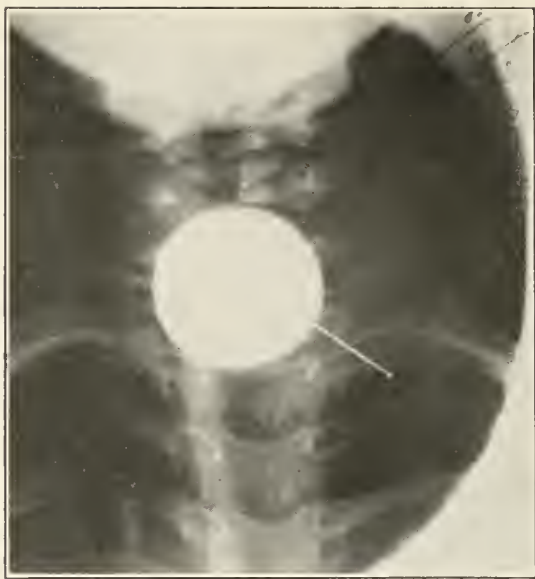


Fig. 5. A silver half dollar lodged in the upper segment of the esophagus. Case 4.

cape him. When I reached his home he had been unable to dislodge the meat from his esophagus. In an effort to push it down my tube met obstruction about half way which could not be overcome. I prescribed a solution containing HCl and pepsin. In 36 hours the obstruction passed into the stomach. In the meantime all food and drink was regurgitated.

I might cite a sixth case in baby K., 4 years old, who had been treated for an acute throat affection in the course of which "kernels" developed in its neck. When I saw the child there was fever and a large tumefaction on the left side of its neck. The process grew more extensive and in a few days there was present stenotic breathing and regurgitation of all food. On operation a large quantity of pus was evacuated and all stenotic symptoms promptly relieved. My finger inserted into the wound came in contact with the trachea, esophagus and spine.



Fig. 6. Tin whistle in postnasal space.

Perhaps too much time has been devoted to this paper. On the other hand, more time could have been given to it profitably because there are lessons to be learned. It shows that, in spite of the small amount of space devoted to the esophagus in our textbooks, it is subject to diseases and is afflicted not infrequently. Three of the six cases had not been diagnosed promptly.

Case one is interesting from the standpoint of its intermittent symptomatology and it teaches that spasm of the esophagus is associated with organic disease of that organ and that when obstruction occurs in the cancer age, cancer is one thing to be kept prominently in mind, while spasm should be looked upon with suspicion. Unfortunately, the treatment of cancer of the esophagus is practically hopeless.

The second case presented a tumor in the posterior mediastinum, placed between the esophagus and the spinal column. With final admission of a venereal sore in youth, a four plus Wassermann and amelioration of symptoms following antiluetic treatment, a gumma is the logical diagnosis, even though retrogression was not more complete. This gumma evidently took its origin from the periosteum of the vertebrae, or the anterior common ligament. What conditions are associated with the gumma is speculation.

In general glandular enlargements, yes even in local ones, the esophagus may suffer obstruction.

Cases in which a foreign body obstructs the esophagus most generally give a history leading to the diagnosis, yet Eichhorst's case did not. And if I may be allowed to deviate a bit I'll point to the film showing the foreign body in the postnasal space. This 10 year old boy was brought in by a frantic mother insisting that the child had swallowed a tin whistle. The film of the head was taken only when films of the abdomen revealed no foreign body. So all substances disappearing through the mouth do not necessarily enter the lower alimentary canal.

521a Broadway.

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ESOPHAGEAL OBSTRUCTION*

VICTOR E. CHESKY, M.D.

HALSTEAD, KANSAS

Esophageal obstruction is one of the most distressing conditions which we are called upon to treat. We frequently see it in the last stages of starvation and dehydration with extreme emaciation and an impoverished blood.

The etiology of esophageal obstruction is as follows:

1. Cicatricial strictures from the ingestion of ordinary household lye or strong acids; from ulceration following the long retention of foreign bodies; from ulceration occurring during typhoid and scarlet fever; from ulceration following severe vomiting of pregnancy; from mediastinitis involving the esophagus to the extent that healing produces scar; a considerable number are seen where no cause can be ascertained.

2. Cardiospasm.

3. Neoplasms. Benign neoplasms are rare. Lipoma, myoma, angioma, fibroma and polyp have been reported, the latter being much more common. *Malignant*: Carcinoma is by far the most common cause of neoplastic stricture. Sarcoma has been reported.

4. Foreign bodies, as bones, open safety pins, coins, buttons, fruit stones, portions of dental plates, finger rings, etc.

5. Esophageal diverticula.

6. Pressure on or involvement of the esophagus from without. I have seen one case in which a carcinoma of the bronchus just beyond the bifurcation involved the esophagus causing obstruction. However, aneurysm or other mediastinal tumors might cause stenosis.

7. Hysterical dysphagia.

8. Congenital stenosis.

In our clinic, stricture due to the ingestion of lye, cardiospasm and carcinoma have been the most frequent causes of esophageal obstruction. This paper will be limited to a discussion of cicatricial stricture and cardiospasm.

Practically all of the patients we have seen with cicatricial stricture have been children between the ages of fifteen months and twelve years who gave a history of having swallowed lye. The shortest time elapsing between the swallowing of the lye and the patient's entrance into the clinic was two months while one case had swallowed it ten years previously and had had several dilatations done elsewhere.

When lye has been swallowed by a child the antidotes first given are very rarely given in time to prevent injury to the esophageal mucosa with later ulceration and scar formation. The stricture usually begins to cause dysphagia after

six to eight weeks. There are cases on record however of lye swallowed in childhood and dysphagia not developing until adult life. There is usually an immediate dysphagia due to inflammatory reaction within the esophagus which is only present a short time after which there is a period preceding scar formation when the child swallows well.

Solid foods cause difficulty first, necessitating change from solid to soft diet and finally to liquid. Finally these may fail to pass except in small amounts and the condition of starvation supervenes. The patients become emaciated, dehydrated, anemic and have enlarged and palpable spleens.

The history alone usually makes the diagnosis, which may be confirmed by the X-ray and the esophagoscope. The roentgenogram is characteristic in that it shows a sudden cutting off of the barium with a small thread-like projection of barium down through the stricture.

TREATMENT

The method of treatment which we have used has been gradual dilatation of the strictures with olive tipped bougies threaded on a silk thread, which has been previously swallowed by the patient, to act as a guide in passing the bougie through the stricture. The patient is given a spool of heavy silk thread 24 hours before the dilatation is to be done and instructed to swallow it slowly, not more than 18 inches an hour, until five or six yards are swallowed. This will insure its having traveled sufficiently into the intestines that it may be pulled taut without withdrawing it. A silk thread will find its way through the tightest stricture and it is seldom difficult to get even a very small child to swallow it if one has patience and persistence. If great difficulty is encountered a very heavy silk thread may be attached to that swallowed and the thread kept in the esophagus for a month or even longer.

With the thread as a guide, bougies are passed about twice a week starting with the smallest and dilating up to about size 30 French, this later being increased to size 45. After full dilatation is acquired, the interval between instrumentation is gradually lengthened until dilatation is done only about once a year. Dilatation is done without anesthesia.

This method of treatment has several advantages. There is no danger of perforating the esophagus, as is frequently done when bougies are passed blindly. It obviates the necessity for esophagoscopy. Even when strictures are dilated through the esophagoscope, if they are multiple as is often the case only the upper one is seen and there is danger of perforation after passing the first stricture. Unless one is using the esophagoscope fre-

* Read before the Kansas City Academy of Medicine, April 16, 1926.

quently one cannot use it well. Lastly the patient may, after the stricture is fully dilated, be equipped with the apparatus and they or their relatives be taught to continue the dilatation themselves.

CARDIOSPASM

Cardiospasm next to cancer is the most frequent cause of esophageal obstruction. It is a spasm of the muscles of the cardia or epicaardia usually so severe as to cause partial or complete obstruction to the passage of food or even water. The spasm of the cardia is always accompanied by moderate or extreme dilatation of the esophagus, this dilatation extending practically the complete length of the esophagus.

The ages of the patients in our series range from 24 to 75 but ages of from 5 to 83 have been reported. It is generally conceded that the majority occurs between the ages of 30 and 40. We have had more cases over 40 than under 30.

ETIOLOGY

A discussion of the etiology of this condition usually leads us nowhere. Many refuse to recognize cardiospasm as a distinct clinical entity. Among the various causes suggested none of which can be proved are: Irritative lesion of the vagus nerve, derangement of the nerve supply of the cardio esophageal sphincter, congenital defects or primary atony of the musculature of the esophagus, esophagitis, gastric ulcer, fissures at the cardia and anatomical abnormalities in the diaphragm around the lower end of the esophagus.

SYMPTOMS

There is considerable variation of the symptoms, apparently depending on the degree of obstruction and extent of the esophageal dilatation. There may be only a slight sense of difficulty in swallowing with or without some epigastric or retrosternal pain. The patients exhibiting these symptoms are usually young, nervous individuals, often with many other indefinite symptoms and generally classed as neurotics. They give no very definite roentgenographic evidence of obstruction.

Those of the more severe type complain first of a stopping of the food bolus just before entering the stomach. There is no regurgitation and the food finally goes through. Later the chief triad of symptoms, namely, dysphagia, regurgitation and salivation, occurs. The dysphagia may vary from slight to complete obstruction of the esophagus. At first regurgitation of food immediately follows eating but later, after dilatation of the esophagus increases, this regurgitation may follow hours or

even days after taking foods. There seems to be an excess of saliva and patients frequently complain of saliva and mucus coming up at night, the mucus of course being regurgitated from the esophagus.

The symptoms develop very suddenly in a certain per cent. of the cases while in others they come on gradually over a period of months or years.

Because of the nutritional disturbance, patients with cardiospasm frequently lose much weight and show evidence of anemia. Others learn to wash their food down by drinking rapidly a large quantity of water after eating and in them the nutritional disturbance may not be so noticeable. Death from starvation may follow in severe cases.

The diagnosis of cardiospasm is not difficult. Carcinoma and diverticulum are the conditions whose symptoms often closely resemble those of cardiospasm. Roentgenographic examination alone usually makes the differential diagnosis. In carcinoma we have the esophagus filled with barium which cuts off irregularly just above the cardia with a narrow ribbon of barium extending through the lumen in the cancer. Dilatation of the esophagus is not marked and extends only a short distance above the obstruction. In diverticulum the esophagus is empty and the barium filled sac is seen usually at the upper end of the esophagus. In cardiospasm the esophagus is dilated its complete length and ends in a smooth conical tip at the cardia. When the symptoms occur in a young patient, carcinoma may practically be excluded, while several years duration of symptoms also excludes malignancy. The passage of sounds guided by previously swallowed silk thread also gives information. If the thread is allowed to remain lax the sound may drop into a diverticulum. If tightening the thread lifts the sound it is in a pocket, and if it does not it is against a stricture. Passage of a rather large tipped bougie meets with only slight resistance in cardiospasm but with definite resistance and usually comes up blood tinged in carcinoma.

TREATMENT

The mild types of cardiospasm, that is, those in young neurotic individuals with merely slight dysphagia and no dilatation of the esophagus sometimes yield to a combination of sedatives and antispasmodic drugs. Sometimes, in addition to this treatment, passing a stomach tube or a bougie tipped with a large olive is indicated.

In the more severe cases it is necessary to dilate the cardia to the extent of paralyzing the sphincter. We are using a modification of the Russell hydrostatic dilator. This consists of a

cylindrical rubber bag with a silk bag drawn over it to limit the expansion and another rubber bag drawn over this to lessen the resistance in introducing the instrument into the esophagus. These bags are fastened to a rubber tube, the lumen of the tube opening into the inside rubber bag. A small whalebone rod tipped with a perforated metal olive runs through the lower end of the tube and bags to give it the necessary rigidity for insertion through the cardia. Water pressure is used to expand the dilator.

The patient first swallows about six yards of silk thread and an ordinary dilating bougie with a large olive is passed, guided by the thread and the distance from the spasm to the incisor teeth measured. The dilator is then passed until the middle of the bags are in the sphincter of the cardia. Water is now turned into the dilator passing it first through a gauge graduated in feet of water pressure. A well controlled valve should be used in order that the dilator be made to expand slowly. From 15 to 25 feet of pressure is used, the amount depending on the severity of the spasm and the dilatation of the esophagus. After the required pressure is attained the water is turned off, the instrument allowed to empty and then withdrawn. The dilatation is practically always painful and may require an opiate for relief afterwards. From 2 to 3 dilatations are done with an interval of one or two days between treatments. This usually suffices.

The immediate results are remarkable. Patients usually swallow all foods without difficulty immediately after dilatation. There is a small percentage of recurrence in which the dilatation must be repeated. The esophageal dilatation subsides but often does not entirely disappear. There is one danger which accompanies forcible dilatation of the cardia and that is rupture of the esophagus and death. We have never seen it happen but a few cases have been reported.

THE PREVENTION OF PUERPERAL INFECTION

HOWARD B. GOODRICH, M.D.

HANNIBAL, MO.

Statistics indicate that, as a result of puerperal infection alone, one woman in ten has a febrile puerperium, one woman in forty suffers irreparable damage and one woman in four hundred dies in the prime of her life leaving one or more children motherless.¹ Seven per cent. of the deaths in women between the ages of twenty and forty years are due to puerperal infection.² In this day of perfected asepsis it would seem that if puerperal infection could

not be entirely prevented, at least the frequency of its occurrence could be greatly reduced; such a reduction of the morbidity from puerperal infection would correspondingly reduce the incidence of permanent invalidism and death.

Although the majority of cases with febrile puerperia due to genital tract infection are either operative deliveries or cases delivered without careful asepsis, nevertheless many of them are spontaneous deliveries conducted without vaginal examinations under strict aseptic precautions by qualified accoucheurs in well regulated hospitals. Much of this morbidity would therefore seem to arise from pathogenic bacteria which are present in vaginal or cervical secretions at the onset of labor.

Practically all observers report a definite incidence of positive streptococcus cultures from the vaginae of pregnant women, though with varying percentages. Fricke³ found eight per cent. positive in the cultures taken at the clinic and fifty five per cent. positive in the cultures taken at home. Bumm and Sigwart⁴ report thirty eight per cent. positive on one examination and seventy four per cent. positive on repeated examination. In spite of these findings little or no attention had been given to the preparation of the vagina for delivery since the period of 1880-1895, when antiseptic douches were prevalent, until the intravaginal use of four per cent. mercurochrome during labor was initiated by Mayes at the Methodist Hospital in Brooklyn in July, 1924.

Mayes selected mercurochrome because it possesses well recognized germicidal action, is not irritating to mucous membrane or skin, and has the property of fixing itself for some time in the superficial layers of the exposed tissues thus prolonging its action. He has observed no cases of poisoning and has received no complaints of either immediate or late discomfort from its use. He reports⁵ that ninety five per cent. of all cultures taken from lochia preceding delivery are positive to some organism, usually streptococcus or staphylococcus. He says, "if cultures were taken immediately after the preparation, they were often positive; if taken five minutes after the preparation, they were usually sterile; and if taken an hour or more after the instillation of mercurochrome, they were almost always sterile. * * * These experiments proved to us that the mercurochrome had to remain in contact with the vaginal secretion for a definite period of time."

In July, 1925, he reported 1238 consecutive deliveries⁵ which may be divided according to method of preparation into three groups:

1. Those cases which were prepared at the time of delivery with the usual external preparation of three and one half per cent. tincture of iodine.

2. Those cases which were prepared at the time of delivery with an external preparation of four per cent. mercurochrome supplemented by the instillation of one dram of the same solution in the vagina.

3. Those cases which were prepared on admission to the hospital, before all vaginal examinations and at the time of delivery, with an external preparation of four per cent. mercurochrome supplemented by the instillation of one dram of the same solution in the vagina.

TABLE 1.

Group	Total Cases	Gross Morbidity	Per Cent Morbidity	Days of Morbidity	Days per Patient
1.	410	45	11.0%	201	.49
2.	268	34	12.7%	132	.49
3.	560	39	7.0%	135	.25

These figures show that in those cases which received the mercurochrome only at the time of delivery the morbidity was approximately the same as in those cases which received the usual external iodine preparation, while those cases which received the mercurochrome preparation during labor as well as at the time of delivery show a reduction of about fifty per cent. This substantiates the result obtained by cultural study, that the mercurochrome must be allowed a definite period of time for action, preferably at least an hour.

Eliminating those cases in which the temperature was definitely explained by extragenital pathology, corrected morbidity shows even more strikingly the efficacy of the intravaginal use of mercurochrome early in labor.

TABLE 2.

Group	Cases	Gross Morbidity	Extra-genital Morbidity	Cases Corrected Morbidity	Per Cent. Corrected Morbidity
1 and 2	678	79	16	63	9.3%
3	560	39	17	22	3.9%

Since that time Mayes has reported by personal communication even lower morbidity.

Having thus emphasized intravaginal antisepsis because we believe that it is the most valuable addition of the past twenty five years to the prevention of puerperal infection, we are now ready to consider briefly those means of prophylaxis which to us are of distinct value.

1. ANTEPARTUM CARE

A. Develop the least pathogenic bacterial flora possible.

1. Prohibit coitus during the last six weeks of pregnancy. Ruge⁶ reports that of eighty two women who had intercourse during the last three days before delivery seventeen per cent. had high temperatures lasting from several days to several weeks.

2. Prohibit vaginal douches during the last four weeks before expected date of labor. Rarely this may have to be modified.

3. Prohibit tub baths during the last two weeks before expected date of labor.

4. Make no vaginal examinations during the last four weeks before expected date of labor unless under strict aseptic precautions.

5. Insist on constant general body cleanliness particularly during the last four weeks before expected date of labor.

6. Give intelligent and vigorous treatment to all cases of endocervicitis recognized between pregnancies.

7. During pregnancy treat cases of endocervicitis symptomatically, carefully avoiding all trauma.

B. Build up general health in order to increase resistance to infection.

1. Mental attitude. Patient should be kept cheerful and happy. Cares and responsibilities should be minimized. Diversions should be supplied. Medical gossip should be avoided.

2. Exercise. Avoid physical fatigue. Light housework and regulated walks usually give adequate exercise. Vigorous exercise such as scrubbing floors, washing clothes, horseback riding, swimming, playing tennis, etc., and long or rough automobile rides should not be allowed.

3. Rest. Retire early. Sleep eight to nine hours every night. Rest one to two hours after the noon meal.

4. Fresh air. This is necessary at all times with as much sunlight as possible.

5. Diet. Eat three regular meals a day of well balanced wholesome food. Include generous amounts of fresh or stewed fruits and green vegetables in the diet. Do not try to eat for two persons. Drink at least one quart of water each day in addition to the fluids taken with the meals.

6. Bowel hygiene. Regularity is essential. Combat constipation with a laxative diet, liquid petrolatum and milk of magnesia in the order named. Do not use strong cathartics except when indicated for toxemia. Use small provocative soap-suds enemata when necessary.

7. Care of teeth. Use alkaline mouth wash in addition to usual dental hygiene. Do not hesitate to visit dentist and take dental treatments required.

8. Weight. Limit gain in weight during pregnancy to twenty five pounds. If the patient is obese, try to limit the gain to ten or fifteen pounds.

9. Guard against acute infectious diseases such as tonsillitis, the exanthemata, and respiratory infections, particularly near the expected date of labor.

C. Insist on strict supervision of pregnancy in order to detect toxemia, heart disorders, abnormalities, etc., and to estimate the date of labor and the probable nature of delivery.

Modify and supplement treatment by the conditions found. The presence of toxemia greatly increases the danger of infection.⁷

2. INTRAPARTUM CARE

A. At onset of labor.

1. Sponge bath.
2. Soapsuds enema.
3. Shave vulva, pubes, lower abdomen, and adjacent thighs. Scrub this area thoroughly with tincture of green soap and water.
4. Mercurochrome preparation. "The external genitalia and introitus are painted thoroughly with four per cent. mercurochrome solution; and, after elevating the hips, one dram of the same solution is instilled into the vagina. We use a large medicine dropper to which is attached a piece of catheter four inches long. The dropper is filled with mercurochrome, the labia separated, the catheter inserted into the vagina, and the solution instilled."⁵

B. During labor.

1. Supportive treatment with conservation of strength.

(a) Water should be taken frequently in small amounts.

(b) If the labor is long, fluid nourishment should be taken regularly. Carbohydrates particularly should be given because they are readily digested and lessen the degree of hypoglycemia which develops in all long labors as a result of the partial exhaustion of the liver glycogen.

(c) Use morphine or other analgesics as indicated after the first stage is well under way in order to give the patient relative rest and to assist the dilatation of the cervix.

(d) The patient should not bear down with the labor pains until the cervix is fully dilated.

(e) If there is no contraindication and if the patient so desires, allow her up during the first stage of labor, but do not encourage this.

2. Use rectal examinations as a routine to follow the progress of labor.

3. Vaginal examinations, when indicated, are preceded by the mercurochrome preparation and performed with sterile gloves over carefully scrubbed hands.

4. Mercurochrome preparation every twelve hours during labor.

5. Soapsuds enema every twelve hours during labor. Keep the rectum empty to prevent contamination of the operative field at time of delivery. After each defecation flush soiled parts with normal saline solution and repaint with mercurochrome. A distended rectum may delay labor, incidentally increasing the danger of infection.

6. Do not allow distension of the bladder. Distension traumatizes the bladder, decreases

its resistance to infection and greatly increases the frequency of necessary postpartum catheterization. Distension of the bladder may also delay the dilatation and retraction of the cervix, retard the expulsion of the fetus and placenta and cause separation of the pubovesical ligaments.⁸

C. Delivery.

1. All gloves, gowns, drapings, gauze, instruments, etc., are sterile.

2. Attendants and nurses maintain rigid asepsis.

3. Four per cent. mercurochrome is applied with sponge stick or atomizer to introitus, vulva, lower abdomen, adjacent thighs and buttocks, and anal region.

4. Sterile drapings are applied.

5. With two fingers inserted in the vagina, one dram of four per cent. mercurochrome is instilled and is worked well into the folds of mucous membrane and around the cervix or presenting part.

6. Anesthetizing the patient as soon as the head reaches the perineum in vertex presentations prevents breaks in asepsis due to the struggles of the parturient. Delivery is then usually readily accomplished by the use of episiotomies and low forceps in primiparous women, and by their occasional use in the multiparous. This procedure is recommended only to experienced accoucheurs for use in hospital cases. In their hands it will also save babies, benefit mothers, and prevent many relaxed pelvic floors.

7. Medial or mediolateral episiotomies should always be done when a laceration of the pelvic floor seems probable. In their repair, after the muscles have been approximated with interrupted chromic sutures, the skin and mucous membrane can be closed with a subcuticular chromic catgut suture which practically prevents any infection of the wound later on from infected lochia or external contamination. Ragged lacerations are not as easily or as safely closed with subcuticular sutures, and the more traumatized tissues do not heal as readily.

8. Avoid cervical lacerations as far as possible by conservative handling of the first stage of labor; lacerations of the cervix or lower uterine segment produce conditions ideal for the entrance of infection. If prompt delivery is necessary when the cervix is only partly dilated, the cervix should be incised bilaterally rather than dilated (and torn) manually or by forcibly extracting the baby through it. In partial and central placenta previa, delivery should be by Caesarean section in most instances, as the most conservative vaginal delivery frequently causes lacerations or splitting of the lower uterine segment or cervix, sometimes followed by extraordinarily intract-

ble hemorrhage and all too often by serious sepsis.

9. Give one cubic centimeter of pituitary extract hypodermically at the beginning of the third stage of labor.⁹ This brings about earlier separation of the placenta, reduces blood loss, and renders the expression of the placenta less difficult with less handling and trauma of the uterus.

10. Repair at once all cervical incisions, all cervical lacerations which bleed persistently, all vaginal lacerations, and all perineal lacerations or incisions, not excepting complete lacerations of the perineum. An open wound is a potential portal of infection.

11. Paint all wounds with four per cent. mercurochrome immediately before suturing. Carefully remove all blood clot from the wound before approximating the opposing surfaces. Approximate the tissues accurately. Do not leave any dead space. All these precautions will help to prevent infection of the wounds.

12. Follow the delivery of the placenta by the oral administration of two drams of the fluid extract of ergot, as soon as recovery from the anesthetic permits. Keep a hand on the fundus for one hour after the delivery of the placenta. If there is slight persistent bleeding from the uterus, if the fundus has a tendency to relax, or if the uterus begins to enlarge, lift the uterus out of the pelvis and control it between the two hands. Do not hesitate to repeat the pituitary extract or to give aseptic ergot hypodermically when bleeding or relaxation still persists. Do not wait for exsanguination as an indication for uterine packing, although this should seldom be necessary. Prevent hemorrhage. Anemia lowers resistance to infection. After any severe blood loss, transfuse as soon as possible.

13. When Caesarean section, induction of labor by bougie, pack or bag, podalic version, or any other operative procedure is contemplated, use the mercurochrome preparation one hour before the time of operation whenever possible.

14. We believe that the low flap Caesarean section of Beck and De Lee should be used almost to the exclusion of other types of abdominal delivery. After this operation, which is technically not much more difficult than the classical Caesarean section, infected lochia seeping through the uterine wound does not reach the peritoneal cavity and cause peritonitis, the most common fatal complication of the classical method. Its many advantages have been fully described and well demonstrated by De Lee.¹⁰

3. POSTPARTUM CARE

A. General hygiene.

1. Supply a cheerful atmosphere in a light,

well ventilated room or ward. Cheerful attendants and nurses should inspire confidence. The baby's weight should not be discussed.

2. Rest is essential. Insure comfort and sleep by thoughtful nursing and the intelligent symptomatic use of sedatives, hypnotics or narcotics to relieve restlessness and discomfort. Whenever possible the nursery should be out of sight and hearing. Do not take the baby to breast between midnight and 6 a. m.

3. Cleanliness. Sponge bath every day. Oral hygiene is essential. The nipples must receive careful attention. Change vulval pads frequently. After each urination or defecation flush the vulva with a mild antiseptic solution.

4. Diet. Fluids until the second morning after delivery. Then give nutritious readily digested appetizing meals including laxative foods and at least one quart of milk a day.

5. Bowel hygiene. Beginning the second morning after delivery give one half ounce of liquid petrolatum and two drams of milk of magnesia morning and night, increasing or decreasing the amount as necessary. Do not use strong cathartics except when salines may be indicated for toxemia. Give soapsuds enema every day if necessary.

6. Care of bladder. Prevent distension. Catheterize every six to eight hours if other methods fail. Every patient who has been catheterized more than once postpartum should be catheterized immediately after each voiding until less than one ounce is obtained. After each catheterization instil two drams of ten per cent. argyrol, or one tenth of one per cent. silver nitrate solution into the bladder.

B. Prevention of the development or the progress of infection.

1. If there is any tendency for the uterus to relax, if the lochia is more abundant than usual, or if involution is retarded, give thirty minims of the fluid extract of ergot every four hours.

2. If the uterus is tender, if the lochia becomes foul, or if there is any rise of temperature above 101° not readily explained by extragenital pathology, give thirty minims of the fluid extract of ergot every four hours, apply an icebag to the lower abdomen two hours on and two hours off, raise the head of the bed eight inches (more than this is of no further advantage and only embarrasses the heart), and instil one dram of four per cent. mercurochrome into the vagina each day after first carefully painting the vulva with the same solution.

3. If perineal wounds show any evidence of inflammation, instil mercurochrome every day as above; if any suppuration develops, establish adequate drainage promptly.

4. Any acute or marked rise in temperature,

not readily explained by extragenital pathology such as breast infection, femoral phlebitis, pyelitis, respiratory infections, etc., even in the absence of any apparent genital infection, should be immediately treated with the intramuscular injection of one hundred cubic centimeters of polyvalent antistreptococcus serum in divided doses of twenty cubic centimeters every six hours. Whenever possible a donor should be obtained for transfusion of five hundred cubic centimeters of blood, to be given if the temperature remains high more than twenty four hours or if there is a recurrence of high temperature. Such prompt action may occasionally prevent severe general sepsis.

5. If general sepsis is established either clinically or by positive blood culture, transfusion of four hundred to five hundred cubic centimeters of blood every two or three days is the strongest therapeutic agent in our hands. We are not impressed by the results obtained by foreign protein injection or by the intravenous use of antiseptics such as mercurochrome, acriflavine, gentian violet, etc. Constant intelligent and interested nursing supplemented by general supportive and symptomatic treatment carried out in sunshine and fresh air is invaluable. Any tendency toward abdominal distension demands early attention. The tendency toward dehydration and acidosis should be combated with fluids, alkalis, and forced nourishment, using a two per cent. sodium bicarbonate and five per cent. glucose solution by proctoclysis, normal saline solution by hypodermoclysis, and five per cent. glucose solution in normal saline solution by the intravenous route, as indicated. The possible need for surgical intervention must be kept constantly in mind but must be conservatively considered.

6. At least twenty four hours before intended discharge and not before the tenth day postpartum a thorough gentle bimanual examination should be performed as a routine. By this means unrecognized pathology, such as a poorly involuted or tender uterus with perhaps some limitation of motion, will occasionally be found; also occasionally when the examination itself is apparently negative, the following twelve to twenty four hours will show a definite rise in temperature due to latent low grade infection which the gentle manipulation of the examination brought to light. Both these groups of cases require longer supervision in bed, and they would not have been recognized unless examination had been done. On the other hand, if these cases are turned over to inconsiderate or thoughtless husbands and are given the combined responsibilities of the baby and the home, the already long list of cases of uterine sepsis may become even more appalling.

SUMMARY

1. The high incidence of puerperal infection should be capable of reduction.
2. Clinical observation and cultural study suggest that proper intravaginal antisepsis should cause a marked reduction in morbidity.
3. Mayes has obtained a marked reduction in morbidity by the intravaginal use of four per cent. mercurochrome during labor.
4. Simple and practical means for preventing puerperal infection are briefly discussed.

Holmes Building.

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OCCIPITOPOSTERIOR POSITIONS IN LABOR*

GEORGE KIRBY SIMS, M.D.

JOPLIN, MO.

A few years ago I had the privilege of hearing Professor Joseph B. DeLee give a lecture to a group of medical men on some points which have been not only useful, but definitely beneficial to me in my professional life. And in the following I give a statement of what he then considered the five most common errors in obstetrics, viz. (1) A common error is the lack of complete obstetric diagnosis. (2) A lack of knowledge of the real principles of asepsis. (3) Ignorance of the course of occipitoposterior positions. (4) Operating before we have complete dilatation of the cervix. (5) Downright neglect of the mother and baby in labor.

It is a discussion of the third of these errors (occipitoposterior positions) which concerns us here; and for the sake of convenience we shall keep in mind occipitodextra positions, rather than the occipitoleva, since the former are much more frequent than the latter. There are two varieties of these positions; that is to say, nature has been sufficiently kind to give us two classi-

* Read at the meeting of the Jasper County Medical Society, October 19, 1926.

fications, viz: (1) Those in which engagement occurs; the occiput descends and there ensues either an arrest of labor with the sagittal suture in the transverse, or complete rotation of the occiput to the hollow of the sacrum, becoming an occipitosacral position. (2) Those in which there is no engagement; the head remains high and in a posterior position, a persistent occiput from the beginning.

Diagnosis. Instead of presenting the clinical points in the regular academic form I have reversed them to some extent, because one is primarily interested in the diagnosis and prognosis of the case since he must make his diagnosis before etiological factors may present themselves.

Externally, in the first part of labor, one observes that the contour of the abdomen is more of a gradual slope from xiphoid to symphysis. The breech is in the fundus. The back is to the right and posteriorly. The small parts are easily palpable anteriorly. The shoulder is found on the right side of median line. The sinciput may be felt above the left pubic ramus. The fetal heart tones are heard in the right flank and distant from the auscultating ear. As labor progresses and the fetus descends, the back moves toward midline. The fetal heart tones may be observed to approach nearer the linea alba and the shoulder moves over to the left side of median line.

Internally, and again early in labor, with the palpating finger it is observed that the large fontanel is on the left side and anteriorly, while the small fontanel lies high up and at the right sacro-iliac synchondrosis. The sagittal suture and the fontanels are, therefore, in the oblique. With descent and rotation the sagittal suture and fontanels come to lie in the transverse. In a long drawn out labor, in a large majority of the cases, one observes the formation of a caput succedaneum with the consequent obliteration of the sagittal suture and the fontanels in which the ability of the attendant to make his diagnosis is masked. It is in such cases that the location of an ear with its point of direction is of inestimable value, since one is thereby enabled to place his indication. Then, knowing that the conditions are fulfilled, he may definitely outline and follow his method of procedure.

Prognosis. In the first place, the prognosis depends upon the skill and the experience of the accoucheur. Also, the size of the passenger and the passages are factors to be considered. The mortality and morbidity for both the mother and the child are higher than in occipitoanterior positions. For the mother because of (1) exhaustion from prolonged labor; (2) perineal lacerations are imminent; (3) sepsis occurs from frequent manipulations and opera-

tive procedure; (4) postpartum hemorrhage from secondary inertia uteri is not rare. For the babe asphyxia is not uncommon and operative delivery is frequently attended by danger in the hands of the untrained.

Clinical course. In reviewing the clinical course it has been observed that (1) labor is slower and longer since the uterine contractions are more frequently weak and irregular both as to time and strength. This observation should be a cue to the attendant in that he should understand that there is either some abnormality or disproportion between the passenger and the passages, that the fetal head occupies a position which does not permit its rotation and passage through the birth canal, or that the powers are insufficient to affect rotation. (2) Early rupture of the bag of waters is frequent and the head remains high longer than in an anterior position. (3) Dilatation of the cervix is therefore slower because the head does not conform itself well to the pelvis and it thereby fails to press down equally all the way round upon the internal os. We know of course that the hydrostatic bag is far more efficient as a dilator than is the fetal head, because the former during uterine contractions does press down equally all the way round upon the internal os. (4) Spontaneous delivery in occipitoposterior position requires great uterine and abdominal effort because (a) the large occipitofrontal and occipitomentall diameters, rather than the smaller suboccipitobregmatic and suboccipitofrontal planes, have to pass through the vulva; (b) the chin becomes flexed upon the sternum, stretching the nape of the neck, forming an unbendable cylinder which is unable to accommodate itself to the birth canal; consequently, the perineum has to stretch greatly or tear and lacerations occur in a large majority of the cases; (c) further, the head and first part of the back have to pass through the pelvis simultaneously and, therefore, perineal lacerations are the rule rather than the exception.

Terminations. Four terminations are possible, viz: (1) Under strong pains the occiput rotates 90° anteriorly to an occipitodextra anterior, and later 45° more, completing its arc of 135° as it passes from behind the symphysis. (2) the occiput may rotate 45° anteriorly to the transverse plane and remain thereby becoming a "deep transverse arrest." (3) Or the occiput may rotate to the transverse and be delivered, the occiput peeling out under the right rami pubis. (4) Lastly, rotation may take place posteriorly to the extent of 45° to an occipitosacral position, the occiput occupying the hollow of the sacrum and terminate in the following manner: (a) extreme flexion may occur and the occiput be forced downward

and backward against the perineum which is over distended and practically always torn. Descent continues with the bregma or brow as the point of direction until the forehead stems behind the pubis and the occiput passes over or through the torn perineum, after which the face appears from behind the pubis. (b) Or the head may descend with deflexion, with the forehead as the point of direction until the brow appears in the vulva, the glabella stems behind the pubis, the occiput rolls over or through the lacerated perineum and, lastly, the face appears from behind the pubic arch.

Etiology. In discussing the etiology it may be said that there are two factors to be considered:

1. Those positions due to some interference with the normal flexion of the head, as in (a) military attitude, in which the forces are so applied that the lever action necessary for flexion is nullified since both levers are equal. That is to say, the occiput and bregma strike the forces of resistance (the levator muscles) at the same time and thereby hold the head in the same axis as the body; (b) a flat pelvis, wherein more resistance is given to the occiput than to the sinciput with a resultant deflexion; (c) brachycephalia in which a brow meets with resistance, giving rise to deflexion; (d) a long drawn out labor brings about exhaustion of the powers before rotation has been completed.

2. Those positions due to some factor which mechanically prevents rotation through the right arc, as a large head, peculiar placental location, tumors in the uterine wall, funnel pelvis, full bladder and rectum, large pelvis and small child, prolapse of fetal parts in advance of the head, pendulous abdomen in which the convex back of the fetus fits better to the curved posterior wall of the uterus, vices of configuration of the bony pelvis, such as observed in poorly developed ischial spines. And, lastly, abnormal pelvic floor as may be found in forward displacement of the coccyx.

Treatment. In discussing the management or treatment of these cases, I am taking it for granted that the pelvic diameters are of such dimensions that Cesarean or abdominal section has been ruled out and that the fetus is capable of being delivered per vaginam. As a routine, I would suggest that an early and complete physical examination be made on every pregnant woman when she goes to engage a doctor as her attendant in a future labor. More, in fact, unless she has already had one or two normal deliveries, one should make both external and internal pelvic measurements which would enable him to know whether she is capable of delivering a normal sized baby through the birth canal.

Further, as a foreword, it should be impressed upon the mind of the patient that in the first stage of labor she should never bear down. It is absolutely and always contraindicated unless for diagnostic purposes. It is not only useless but positively harmful since it uses up the patient's strength needlessly and one runs the risk of rupturing the bag of waters. It is an admitted fact that these cases are peculiarly prone to an early rupture of the membranes with a consequent dry labor, adding insult to injury to an already overburdened nature. In the first stage, with the mother in labor, the abdominal examination should be to determine the cause of the occiput posterior. During this period the patient may walk about or lie abed until engagement occurs and the attendant should make it his business to know when this takes place. If the head is high it is best not to interfere. Watchful expectancy is, therefore, the course to pursue until one has an indication to interfere. And the expectant period should be a time in which the physician occupies himself in observing what the patient can accomplish rather than what she can endure. It is during this period that the parturient can be greatly relieved and every attention should be given her. Morphine and scopolamin or morphine and magnesium sulphate hypodermically, with rectal instillations of quinine, may be given provided a capable observer is left with the patient during this stage of labor if it is not possible that the doctor may remain. If the first stage drags on and danger to the mother or to the child be anticipated, it may be necessary to hasten dilatation of the cervix by use of the Colpeurynter.

During the second stage, if the head remains high following complete dilatation of the cervix, it is advisable to anesthetize the patient, change the position to an anterior one by manual rotation, compress the head into the pelvis by combined external and internal manipulation or draw it down with forceps and leave the remainder of the course to nature. Version may be resorted to, but the former is preferable unless the attendant possesses a certain degree of skill. With the head engaged, watchful expectancy is still practiced because a large majority of these cases terminate spontaneously in anterior rotation or at least to or beyond the transverse diameter and thereby become an easy forceps operation. Frequently, with the woman lying on the side to which the occiput points, rotation is favored. Upward pressure on the sinciput during pains tends to increase flexion and to favor rotation.

Objection may be made to all these maneuvers on the score of introducing infective organisms into the birth canal. In any event

they should not be persisted in to any great extent and in no case may much force ever be used. The dictum of Doctor DeLee, *Non vi sed arte*, (Not strength, but art) posted conspicuously in large raised letters on bronze tablets in each of the delivery rooms at the Chicago Lying-In Hospital, referred to in every delivery he attends and practiced to the letter by most of those men whom he has trained is, in my opinion, one of the first requisites which should be acquired by one in attending labor cases.

With an indication for interference, manual correction should be made under anesthesia. Failing this, recourse may be had to version or forceps, and in the application of forceps one should always bear in mind that they are instruments to be used artfully and skillfully rather than with strength. In my association with Doctor DeLee in the delivery room I have yet to see him apply forceps, or even observe another in their application, that he did not point or refer to this Latin phrase.

In the case of a primipara, if in a maternity hospital, an episiotomy in a large majority of cases is greatly to be desired because it not only enlarges the operative field thereby facilitating the ease of delivery but prevents multiple, jagged lacerations and limits the tear in the plane of the episiotomy.

Again quoting Doctor DeLee, "When a primipara goes into labor with the head not engaged, in 99 cases out of 100 one may expect trouble; and of the 99, 60 of them are going to be occipitoposterior positions."

SUMMARY

1. Occipitoposterior positions are frequent.
2. Infant mortality is high.
3. Lacerations of the perineum are imminent.
4. A careful and complete physical examination, including external and internal pelvimetry, should be made on all primiparae.
5. Accurate diagnosis of existing conditions is indispensable.
6. Complete dilatation of the cervix must be had before attempting any operative procedure.
7. Strict attention to asepsis and antisepsis should be observed.
8. In occipitoposterior positions, as well as in deep transverse arrest, manual rotation under anesthesia should first be attempted, remembering that changing the extension attitude to one of flexion is always of prime importance.
9. Failing manual rotation, recourse may be had to version or forceps.
10. *Non vi sed arte*. Not strength, but art.

Frisco Building, Joplin, Missouri.

DIABETIC DIETS AND SUGGESTIONS*

THOMAS S. FLEMING, M.D.

MOBERLY, MO.

Prior to the advent of insulin, not much interest was manifested in diabetic diets by the majority of us. Since that time, many articles and books on and concerning diets and diabetic procedure have been recommended; but even with them, the physician is so often left with a list of diets in terms of carbohydrates, proteins and fats but not divided conveniently into three meals a day, that he is absolutely at a loss as to how to proceed. No provision is suggested to him as to how the carbohydrates may be separated from the proteins and fats. Neither is any clear method given him by which the carbohydrates may be changed to the different meals for insulin administration.

The purpose of this paper is to give the average practical man a set of tables to which he can turn and simply weigh out the proper amount of food for each meal under certain specified conditions: 1, to separate or combine the carbohydrates from or with the proteins and fats; 2, to change the carbohydrates to different meals for insulin administration.

The diets are computed from the insulin diabetic card of Dr. Elliott P. Joslin with suggestions from his diatetian. No attempt is here set forth as to the treatment of diabetes except as pertains the application of the tables. These are only a list of diets which have been worked out and which some of my physician friends have found to be of such great aid to them that they have asked me to have them incorporated in a paper in the hope that they may be of aid to others.

To adopt these tables, the physician should know the following:

1. To understand a maintenance diet. After getting the patient sugar free and the insulin started, a maintenance diet is the goal or, in other words, a diet on which an individual can follow his usual vocation and retain the weight normal for him. Thirty calories per kilogram (1 kg. equals 2.2 lbs.) of body weight are furnished to retain this weight. For hard labor more calories are necessary. For example, an individual age 42 years, height 67 inches, should weigh about 154 pounds. To attain this weight, the diet must be increased to 2100 calories. Combination formula, C12PF12 furnishes this amount.

2. To supply protein requirements. For each kilogram of body weight 1 gram of protein is ordinarily required. After reaching combination formula C10PF10 in the diet, the proteins need not be increased for the individual mentioned.

To have the patient adopt these tables and

* From the Medical Service of Woodland Hospital.

to be controlled, the patient should be taught the following:

1. To examine the urine for sugar. At first it should be examined before each injection of insulin. Later, examination before breakfast only is required. (Eight drops of urine are placed in 1 teaspoonful of Benedict's solution and the mixture boiled in a cup of water for 5 minutes. It is always better to purchase the Benedict's solution from a reliable house than to have it made by a local druggist.)
2. To weigh the foods. A good 500 gram dial scale¹ is recommended. Make the patient weigh every bite for months. Discipline can better be secured by weighing than by any other method.
3. To substitute foods. Purchase a good book on food values.² By knowing the carbohydrate value of any food, this amount can be substituted by comparing the weight of another article of the same carbohydrate value. For example, if 100 grams of orange are allowed, 200 grams of grape fruit, or 80 grams of pear are permitted. A shredded wheat biscuit, weighing 30 grams with 22.6 grams of carbohydrate, can be replaced by 25 grams of corn flakes, or an equal amount of cream of wheat. The same applies to oatmeal (which is always weighed in dry state.) With the vegetable, become acquainted with the 5 per cent. and 10 per cent. lists. It is often satisfactory to give one 10 per cent. in half the weight of the 5 per cent. vegetable. In the tables, all are listed under the 5 per cent. values. It is usually best to divide the

- amount, as 300 grams into two 150 gram amounts or substitute a 10 per cent. vegetable. Should diarrhea supervene, give a cereal or a Uneeda for a vegetable. One Uneeda weighs 6 grams and contains about 5 grams of carbohydrate, so for 300 grams of 5 per cent. vegetables with 15 grams of carbohydrates, substitute 3 Uneedas. Many similar examples could be given but this is probably enough to illustrate how the book may be used.
4. To give insulin and how to know about the reactions. Insulin U 40 is the best strength for practical purposes. Only an ordinary glass syringe marked in cubic centimeters is necessary. One cubic centimeter will furnish 40 units of insulin and the dose can be taught from these figures. Do not inject in the same site. Reactions and treatment are always described in the literature with the insulin. Watch for delayed reactions, especially with the evening meal or upon going to bed. A lump of sugar should be carried if one goes away from home after the injection.

These are the main features in order to carry out the diets. Of course one must get a great deal of information, because accidents and conditions arise that need emergency treatment. It is well to remember that the diabetic that knows the most lives the longest, provided he applies his knowledge.

Table 1 contains letters and figures grouped into "Combination Formulae" to designate the

TABLE 1—Combination Formulae

Combination Formulae	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12
Calories	386	497	557	752	930	1179	1296	1426	1606	1771	2075	2187
Carbohydrates	14	22	32	42	52	64	74	84	98	109	135	159
Proteins	15	19	24	29	32	44	52	61	65	66	80	84
Fats	30	37	37	52	66	83	88	94	106	119	135	135

various daily diets. A certain definite number of grams of carbohydrates is marked C1, C2, C3, etc., up to and including C12. A certain number of grams of proteins and fats is listed or marked as PF1, PF2, PF3, etc., up to and including PF12. These are combined as shown in the table in a numerical sequence and the number of calories contained in each combination and the respective gram values of carbohydrates, proteins and fats, are placed below

the combination formula. (For example, C3PF3 represents 557 calories and contains 32 grams of carbohydrates, 24 grams of proteins and 37 grams of fat.) Reference may be made to the other figures when desiring caloric values of the diet and when the amount of foods in terms of grams is desired. The letters are convenient for recording or charting the menu.

Table 2 gives the actual foods containing the

TABLE 2—Proteins and Fats

Letters	PF1	PF2	PF3	PF4	PF5	PF6	PF7	PF8	PF9	PF10	PF11	PF12
Breakfast												
Bacon .....	..	..	..	..	..	10	15	10	10	10	10	10
Eggs .....	..	..	..	1	1	1	1	2	2	2	2	2
Butter .....	..	5	5	5	10	10	10	10	10	15	15	15
Cream 20%	40	20	20	20	20	40	40	40	60	60	80	80
Dinner												
Meat .....	..	..	..	..	..	30	60	45	45	45	60	60
Bacon .....	..	..	..	30	30	10	..	10	10	10	10	10
Eggs	1	1	1	..	..	..	..	..	..	..	..	..
Butter .....	..	5	5	5	10	10	10	10	10	15	15	15
Cream 20%	40	20	20	20	20	40	40	40	60	60	80	80
Supper												
Meat .....	..	..	..	..	..	..	..	45	45	45	60	60
Bacon .....	..	..	..	..	..	10	15	10	10	10	10	10
Eggs .....	..	1	1	1	1	1	1	..	..	..	..	..
Butter .....	..	5	5	5	10	10	10	10	10	15	15	15
Cream 20%	40	20	20	20	20	40	40	40	60	60	80	80

1. Hanson Bros. Scale Co., Chicago, Illinois.

2. Food Values (Recalculated from Bulletin No. 28, U. S. Dept. of Agriculture, by Amalia Lautz and Mary B. Brady) may be purchased from The Presbyterian Hospital, New York, N. Y.

In order to help apply the above tables, an uncomplicated case will be briefly discussed. A man was under treatment with blood sugar 400 milligrams per 100 cubic centimeters and sugar in the urine of 4 per cent. He was put to bed and given only water, black coffee and beef broth until the urine and blood sugar were normal. Diet CIPF1 was then begun and 5 units of insulin were given before the first meal. The menu was made from Table 2 and Table 3A. Before each meal insulin was increased one unit. The next morning the total night specimen of urine contained no sugar and so the next diet was ordered. Each following morning the diet was increased if no sugar was present in the urine; but if it was present the diet remained the same and the insulin was increased. This see-saw method was continued until a maintenance diet was attained.

After the maintenance diet was reached, Table 2 and Table 3B were used. With these tables, the carbohydrates are divided for giving insulin before breakfast and supper. Then, in a short time, it was found that he could get along with only one dose of insulin, so Table 2 and Table 3C were instituted. Later no insulin was needed and he was put back on Table 2 and Table 3A.

THE ROLE OF DIET IN THE PRACTICE OF MEDICINE*

EDWARD C. MASON, M.D.

SPRINGFIELD, MO.

In the few minutes which I have for the discussion of this subject I wish to stress the fact that the importance of diet is generally greatly underestimated, not only by the laity but also by the profession. We all show some degree of intelligence in selecting the fuel we use in our gas engines, and usually we show some choice in the fuel used in heating our homes; however, we exercise but little if any intelligence in the selection of fuel consumed by the human machine.

We can often avoid much confusion if we consider the body as an engine or machine, and as such the body in the lower animals functions solely as a vehicle to carry the reproductive organs; in man it has the additional function of carrying the elements which make for the mind. If we regard the body as an engine then our problem of diet is an engineering problem and belongs essentially to the class of thermodynamics.

Let us briefly consider two typical diets, a

diabetic diet and an epileptic diet. I have selected these two because they permit a more accurate analysis and also because they embody the three essential points which must be considered in developing any diet. The three essential points are, (1) basal caloric requirement; (2) nitrogen balance; (3) ketogenic-antiketogenic ratio.

BASAL CALORIC REQUIREMENT

The basal caloric requirement has been established in the human engine much in the same manner that we establish the caloric requirement of any engine. We are accustomed to speaking of an automobile going 15 miles on a gallon of gasoline, and by such an expression we state the basal caloric requirement for that particular make of car performing under the selected conditions. If the road be muddy and the load great, then the energy used will be greater and the caloric requirement will be higher. In like manner we find the human machine will vary as to the amount of fuel used, and to allow for this variation we express the basal caloric requirement as being 25 to 50 calories per kilogram (2.2 lbs.) weight in twenty four hours.

NITROGEN BALANCE

In the normal adult we find that nitrogen is not stored; however, there are three conditions under which nitrogen ingestion exceeds nitrogen excretion, namely, (1) during pregnancy; (2) in the growing child; (3) during convalescence. If more nitrogen is ingested than is required to build and repair the body tissue the excess is excreted. When intake and output are equal we consider the individual as being in nitrogen balance. It is stated that two thirds of a gram of protein per kilogram of body weight (per 24 hours) is adequate to maintain nitrogen balance in the normal adult.

KETOGENIC-ANTI-KETOGENIC RATIO

In the process of digestion part of the food ingested breaks down to form ketones and hence the term ketogenic. Normally, these ketones are further broken down by the action of antiketogenic substances, which are also derived from the food. The ketogenic portion is represented in two types of food, (1) fat and (2) protein; while the antiketogenic portion comes from all three types, (1) carbohydrate, (2) fat and (3) protein. Briefly, the relation may be stated as follows:

$$\frac{90\% \text{ fat} + 46\% \text{ Protein}}{100\% \text{ Carbohydrate} + 58\% \text{ Protein} + 10\% \text{ fat}} = \frac{\text{Fatty Acid}}{\text{Glucose}}$$

In building a coal fire we use two types of fuel, (1) kindling and (2) coal. We have learned by experience that a more or less def-

* Read before the Southwest Medical Association, October, 1926.

inite relation must exist between these two types of fuel to obtain satisfactory results. In like manner it may be stated that the fatty acid (ketogenic) portion burns in the flame of the glucose (antiketogenic) portion. Much research has been done and a very extensive literature developed in an attempt to determine the most satisfactory relation of these two substances in the diabetic diet. The ratio of glucose to fatty acid has been chosen by various authors from 1:1.5 to 1:2.5.

It was early appreciated that the fats were the source of the ketones and nonvolatile acids; therefore, to guard against the acidosis of diabetes it was the custom to avoid fats in the diet. Newburg and Marsh, by introducing the high fat diet, revolutionized our ideas in regard to the role of fat in the diabetic diet.

At present I consider the best method of treating diabetes is to determine the glucose tolerance of the individual and then add fatty acid formers not to exceed the chosen ketogenic-antiketogenic ratio. If the individual's glucose tolerance is not sufficiently high to meet the requirements of his basal caloric requirement, it then becomes necessary to add sufficient insulin to supplement the patient's glucose tolerance.

In order to illustrate the three points I have just discussed, I have selected a diet for a man weighing 154 pounds, or 70 kilos. Assuming that he is engaged in medium heavy work, we will select 30 calories per kilogram per 24 hours. His basal caloric requirement will then be 70×30 , or 2100 calories. The protein required being $2/3$ of a gram per kilogram weight, we have $2/3$ of 70, or 47 grams of protein per 24 hours.

Due to the several variables it is somewhat difficult to develop a diet of a given number of calories containing the proper amount of carbohydrate, fat and protein. As previously shown, the amount of protein is fixed by calculation; therefore, it is only necessary to have either the carbohydrate or the fat given to make the solution simple. My method of determining the amount of fat is to multiply the total number of calories desired by $11/120$. The result expresses the amount of fat necessary to balance the diet.

Type of Food	Grams	Calories per Gram	Calories
Carbohydrate	51	4	204
Protein ($2/3$ of 70) = 47		4	188
Fat ($11/120$ of 2100) = 192		9	1728
Total.....			2120

The above diet has been calculated with an F.A.:G ratio of 2:1.

Several years ago data were compiled which showed that a patient became more alkaline as

they approached an attack of epilepsy. With such information at hand, and the knowledge that excessively high fat diet produced a surplus of ketone and nonvolatile acids, the excessively high fat diet was used upon the theory that the acidosis thus generated would counteract the pre-epileptic alkalosis.

The excessively high fat has proved effective in the treatment of epilepsy; however, it remained for Wilder to change our theory of its function. The diet does not produce a state of acidosis, but the ketones generated apparently exert their depressing action directly. In other words, the patient generates his own sedative. The work of Peterman, which covers the use of the diet in children with epilepsy, nicely expresses the possibilities of the diet.

This brief discussion has been only on two types of diet; however, principles are expressed in these diets which are applicable in most all of our common diets, such as the nephritic diet, hypertension diet, reduction diet, high caloric diet. Generally, in developing these diets we stress the three food substances, carbohydrates, fats and protein, but the other elements of diets, salts, water and vitamins, must be kept in mind.

THE AMBULANT TREATMENT OF HAEMORRHOIDS*

J. J. GAINES, M.D.

EXCELSIOR SPRINGS, MO.

Many people have a special aversion to hospital operations, or for that matter, to operations in any other place; it is, therefore, difficult to get the patient with hemorrhoids to sacrifice his ability to get around for a week in bed. The question of ambulant treatment then becomes an important one in such cases.

Successful treatment of protracted hemorrhoids contemplates their radical removal. The so called injection method has proven unsatisfactory in my hands. However, English authorities are drifting into it; a ten per cent. solution of phenol in glycerin and distilled water will do execution on internal hemorrhoids; but the patient will become very tired of treatment before he gets well. I might approve this method in *small*, internal piles.

The office treatment of piles, places the local anesthetic first in line of equipment. We have ethyl chloride, quinine and urea hydrochloride, cocain, novocain, apothecin, and even distilled water, or "pressure anesthesia." My choice for general use is adrenalin and novocain combined—one per cent. ampoules. I have seen

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double hernias operated with this agent without pain. Quinine-urea is non-poisonous; its effects stay longer but it must be used where it can be placed *deeply*; a shallow injection of this agent means a slough, when a slough is about the last thing to be desired. I found this out in my attempt to remove internal hemorrhoids by blocking their circulation with quinine and urea up to five per cent. I have practically abandoned it however, for three reasons: first, its anesthesia is not complete in many cases; second, the danger of slough; third, its injection is painful and its action slow.

Not all rectal diseases are piles, by any means; but, I shall limit this paper to its scope, so far as possible.

Perhaps the simplest variety of pile is the venous, or thrombotic; it is, at the same time, one of the most painful; its gross pathology is the rupture of a small rectal vein and the rapid formation of a clot within an investing membrane; the color of this pile is characteristic—blue; its shape that of half a bullet; its size varies from a cherry-stone to a large hazel-nut. My treatment consists in cleansing the surface and surrounding tissue with soap and water, adding a smear of mercurochrome over the area to be dealt with. A few dots of injection of the adrenalin and novocain; an incision with scalpel over the most prominent part of the tumor; the “hulling” out of the clot. If any loose tissue flaps are left, the curved scissors will remove them. A final swab with cotton wet with mercurochrome, a small bit of sterile gauze packed into the cavity. A roll of gauze the size of the forefingers between the nates, held in place by narrow adhesive. Carbulated vaseline suffices for subsequent dressings, which the patient may apply himself. It is astonishing how grateful the patient will be, finding such easy relief from what he may have supposed to be a cancer!

The vascular, or arterial hemorrhoid is a different matter; not always painful, the patient bears along with it, bleeds and dreads operation until his condition becomes a nasty one. He presents himself telling you he has a “touch” of the piles—has had for a long time. You inspect, see perhaps little; you send him to your toilet, and instruct him to strain; he returns to your operating table and lies down with anal tissues protruding in a mass half the size of a doorknob, often the blood trickling down over the towel, you place under his hips; you see partial prolapse of the rectal wall, accompanying perhaps three or four bleeding, centralizable tumors. The aroused sphincters hold the mass outside; you notice that the skin is involved in the diseased area; you tell him the condition you find and explain what you contemplate do-

ing; the novocain and adrenalin is injected, so as to anesthetize completely the masses to be removed, even the skin, which now is evidently part of the mucocutaneous pile. After anesthesia, with the fingers separate the mass into individual tumors; grasp the largest with a pile forcep—a Pennington, if the mass is not too large. Draw down the part to be removed; clip the *skin* with scissors—no part of the integument must be included in the grasp of the clamp to be applied; the direction of the blades of the clamp should be in line with the axis of the gut. Having secured the tumor to be removed tightly within the clamp, remove the mass with scissors a short eighth-inch from the clamp. I usually curette the stump for removing any coagula prior to applying the cautery; I use a McIntosh cautery instrument with large platinum loop heated to white heat for the first sweep; cherry red for final. In a few moments remove the clamp; only a charred streak will remain in place of the bleeding offender. If any part of the rectal mucosa is clamped, I remove it as well; no harm, only benefit can result. With experience it is remarkable how little the patient will suffer. I often remove two, sometimes three, masses at one sitting. If any remain, I prefer a later session, say four or five days after, when the treatment may be completed in the same way.

The clamp and cautery operation is described by some authors as the survival of barbarity; nevertheless the Year Book for 1925 quotes an eminent authority who says: “It is *best* because *safest*, and leaves the patient the shortest period of recovery.”

Inflamed papillae often simulate piles; I have made the mistake of trying to remove them with clamp and cautery in the fear of after bleeding. Nothing is necessary in such cases, except the application of 10 per cent. cocain solution, preparatory to the injection of novocain and adrenalin; remove them with scissors; the sphincter will control all bleeding. Inflamed papillae are very red and *pointed*. They are often agonizing to the patient; I have found most of these cases among women of short, stocky build, constipated for years. Anything that will relieve distress of this character will produce the most lasting gratitude.

A patient, a young man, perhaps thirty, was brought to my office by a neighbor physician. This young man complained of piles that hurt him severely when he sat down or when he lifted; they had never bled; had existed perhaps a year. Inspection revealed three, flat, greyish tumors, surrounding the anal opening; the mucous membrane of anus and rectum normal so far as palpation revealed. Unques-

tionably syphilitic. I swabbed them with mercurochrome, injected adrenalin and novocain, removed them with scissors; no other procedure except more mercurochrome and soft dressing to protect clothing. The next day he told me he "felt so good he'd rather not have me look at it." Mercurial ointment might have dismissed these, but the treatment would have been long and nasty—he would not have carried it out. His physician placed him on anti-luetic treatment.

As a rule, all external pile tumors may be removed with scissors without any fear of bleeding; sometimes a catgut stitch is needed for oozing—usually not. I do not like to block the coccygeal nerves so as to dilate the sphincters in office procedures. If I cannot bring piles to the exterior with my finger or have the patient strain them out I do not attempt ambulatory treatment, if removal is necessary to cure.

Strictly internal piles that will not come down may be injected with 10 per cent. carbolic acid solution, say ten minims placed shallow, and repeated every five or six days until the tumor is destroyed. I work through the Hirschman "anoscope" rather than through a speculum of the sort that I own. I am inclined to think the Brinkerhoff is the best speculum for internal injections but I have not had one. The anosol suppository is an admirable remedy in acute inflamed piles, where no operation may be advisable and I employ this suppository in intervals between the injections.

After-treatment of pile operations begins when you lay aside your clamp or scissors. I keep a can of bismuth formic iodide on hand and dust the anal groove heavily, following operation, covering with the roll of gauze held by adhesive. In simple cases I instruct the patient to buy a jar of carbolyzed vaseline and pile it on at pleasure. In extremely nervous patients it may be necessary to prescribe an ointment, containing five or ten per cent. cocain, for a day or two of free use. The most obstreperous patient may require one-fourth grain of morphia four or five hours after operation, which does the work of quieting possible rectal spasm.

My experience is largely ambulatory. One man I recall, fifty years old, farmer, rode in a buggy three miles following removal of two large hemorrhoids with clamp and cautery; his case was a severe one—got blood all over his hands every time he used the time-honored corn-cob. I removed a large vascular pile for a fleshy lady patient, and advised her to rest on the bed that afternoon; she spent the afternoon playing bridge! I require my patient to

move the bowels the morning after operation and to keep it up every morning.

Not all the patients do well. My very recent case was a man, 45 years of age, very constipated. He was a highway patrolman, supposedly the embodiment of grit. I removed a couple of external piles, no clamp or cautery, just scissors, and one inflamed papilla, all he had. Not enough bleeding to require dressing. He walked out of the office, well pleased; for four days and nights, in spite of all I could do or suggest, he swore that his "basement" was on fire! My conclusion is, that he was just plain "skeered." Local appearances were ideal.

HYPERREFLEXIA OF LOWER LIMBS AFTER EXERCISE

During the recent war, William G. Spiller, Philadelphia, (*Journal A. M. A.*, Aug. 28, 1926), had the opportunity of studying the effect of forced marches on certain young men who had been taken from sedentary occupations and forced to carry heavy equipment on long hikes. A case is cited in which sudden paralysis of the lower limbs developed following on a march. Recovery ensued. The interesting features in this case are that the man had had no symptoms in the lower limbs until he began to take long hikes, from 8 to 12 miles a day, without previous training, and had carried an equipment which was said to weigh between 50 and 60 pounds. When the patient was examined by Spiller four years later, his patellar reflexes were markedly exaggerated, and he had bilateral patellar clonus, persistent ankle clonus on the left side, and probably bilateral Babinski sign. It seemed evident that organic change had occurred in the spinal cord probably in relation to excessive exercise. A case is also cited in which there was increased reflex activity after slight exercise of muscles when there could be no possibility of exhaustion. This phenomenon is of very rare occurrence and would seem to indicate that some abnormal condition of the central motor tracts must exist when it is observed. It seems to Spiller that it may be an early sign of degeneration of the pyramidal tracts.

ETHYL IODIDE METHOD FOR DETERMINING CIRCULATION

John Walker Moore, W. F. Hamilton and J. M. Kinsman, Louisville, Ky. (*Journal A. M. A.*, Sept. 11, 1926), state that the ethyl iodide method for determining the circulation will have to be revised, as combustible substances, probably ethyl iodide, seem to return in the venous blood to the lungs. They describe a modification of the Henderson-Haggard method and of apparatus.

IDENTIFICATION OF STREPTOCOCCUS OF SCARLET FEVER

The results of experiments made by Ruth Tunnicliff, Chicago (*Journal A. M. A.*, August 28, 1926), indicate that concentrated convalescent scarlet fever serums and the serum of rabbits properly immunized with scarlatinal streptococci are equally specific and are helpful in identifying scarlatinal streptococci, in studying doubtful cases of scarlet fever and in discovering carriers. By making opsonic tests directly with streptococci from colonies on the original blood agar plate, it is possible to detect scarlatinal streptococci sooner than by agglutination or toxin production as now determined.

THE JOURNAL

OF THE

Missouri State Medical Association

FEBRUARY, 1927

EDITORIALS

THE MEDICAL PRACTICE BILL

Our bill to amend the medical practice act was introduced on January 19 as House Bill No. 123 and Senate Bill No. 40. Dr. C. H. Wallace, of St. Joseph, introduced the bill in the House and Dr. Guy Mitchell, of Taney County, introduced the bill in the Senate. The house committee reported the bill favorably on January 26 and it was placed on the calendar for engrossment. Its progress toward passage will be watched carefully by those in charge of the work. In this issue we publish the text of the bill and urge all members to read it and then write their representatives and senators, requesting them to support the passage of the bill.*

A bill making it a misdemeanor for a medical school to issue a diploma without the recipient having attended the required course and also making it a misdemeanor for a person to accept a diploma without having attended the full term was introduced by Drs. Wallace and Barnhouse as House Bill No. 172 and Dr. Mitchell as Senate Bill No. 96. This bill should be recommended to the representatives by our members as it provides a method of protecting the people from fraud which is absent in the statutes at present. It is, of course, an outgrowth of the disclosures developed during the investigation of medical diploma mills. It ought to pass without serious opposition.

House Bill No. 249 introduced by Mr. Roberts, of Crawford County, creates a department of mental diseases and provides for the examination of persons making a plea of insanity when charged with a criminal offense. When the question of insanity becomes an issue the court may, on its own motion, or by application of counsel on either side, request the department of mental diseases to assign the members of the medical staff of any state hospital to examine the mental condition of the individual involved. The bill also provides for the examination of the inmates of the penitentiary and the reformatory at stated intervals and for the commission to the state hospitals

of all inmates found to be insane; a further provision requires the erection of a new hospital prison for the detention, care and treatment of the criminally insane and mental defectives.

At this writing, few bills have progressed further than second reading and reference to committees, but members will be kept informed of the progress of those bills in which we are interested so that they can communicate with their representatives and senators as occasion requires.

HOLT COUNTY MEDICAL SOCIETY STARTS ERADICATION OF DIPHTHERIA

What can be accomplished by a medical society toward stimulating the cooperation of the people in efforts to eradicate a contagious disease was demonstrated last November by the Holt County Medical Society when the members of that body staged a campaign of immunization against diphtheria by toxin-antitoxin inoculation. On another page* will be found a full description of the work done by the society with the cooperation of the school authorities, the newspapers, the county health department, and the state board of health. It is a graphic account of the immunization of over 1,600 children during a period of one month, the services of the physicians and the serum being supplied free of charge during this period. A remarkable feature of the campaign was the fact that practically 100 per cent. of the children who took the first treatment returned for the series of three inoculations.

Through newspaper announcements, the Holt County Medical Society described the benefits of diphtheria immunization and reported upon the final outcome of the campaign. In these announcements, the physicians referred to the campaign now in progress in the state of New York where determined efforts are being made to eliminate diphtheria by vigorous and continuous publicity on the benefits of toxin-antitoxin treatment. Already two towns in New York, Hudson and Auburn, have shown remarkable progress. Hudson after four years of immunizing the children, did not have a single case from June 4, 1925 to June 4, 1926. Auburn has had no deaths from diphtheria since March, 1924. Seven cases were reported in 1926, none of whom had received the protective treatment. Holt County physicians make a plea for us to emulate this example and make Missouri a diphtheria free state.

There is only one disease that has been en-

*See page 78.

*See page 85.

tirely wiped off the face of the earth, or practically exterminated, by scientific methods, and that is yellow fever. The only cases of that disease now found throughout the world are on the Gold Coast in Africa where seven cases with two deaths were reported January 7, and two cases in the Gaoua District of the Upper Volta, Africa, with no deaths. What a vast difference between that report and the report for the week ending December 18, 1926, of diphtheria case rates in this country for only 101 cities showing 190 cases per 100,000 population. It is the proud boast of American medicine, through the indefatigable work of an American physician—the great, the noble, the gentle Gorgas—supported by the philanthropy of the Rockefeller Foundation, that the menace of yellow fever no longer plagues the human race.

Is it an idle indulgence of the imagination to vision a world as free from diphtheria as it now is from yellow fever? We think not. The miracle, however, will not happen unless the medical profession whole-heartedly enters upon the campaign and determinedly pursues it until the people are induced to take up the battle and carry on to victory.

The report of the Holt County Medical Society should be read at an early meeting of every county medical society in the state. We believe many of the societies would be stimulated to undertake a similar campaign, and what a wonderful record it would be if every county society would do so!

CARE OF CRIPPLED CHILDREN

The General Assembly now in session will be asked to authorize the use of the University Hospital at Columbia for the care of crippled children. It is proposed that enablement shall come about through the passage of a bill modeled after the excellent and now classic Iowa law which makes it possible for needy crippled children to be sent to the hospital for free treatment, with the consent of the parents or guardian. The organizations of physicians and women in the state sponsoring the project see in it an opportunity to make use of facilities already available without cost to the state for a building and general hospital equipment. It is further urged that the comparatively rural and central situation of the University Hospital will make for healthful surroundings and easy accessibility from the large central zone of the state now remote from any well equipped service for crippled children.

Enthusiastic support is being given to the project by those who recognize the need for continuing primary and special education dur-

ing the long period of hospitalization necessary in the treatment of deformities in children. On the campus where the University Hospital is located all grades and kinds of education may be brought to children under treatment through the cooperation of the kindergarten, elementary and high school sections of the School of Education which are located within a few rods of the hospital.

NEEDS OF PHYSICAL EDUCATION

There is no adequate name to describe the group of activities that are now embraced under the name of hygiene and physical education. In some places this department is called the department of health education. In others the department of health, in others the department of physical welfare. Perhaps the latter name describes best of all the activities which are being conducted. In any case whatever name is used it includes physical examinations of school children, supervision of sanitary conditions, the teaching of health habits and health principles to children.

It is often thought that this is something new that is coming into education, but all the larger cities and universities have had physical education for the last twenty-five or thirty years. This is only an attempt to bring to the smaller cities the advantages which the colleges, universities and larger cities have had for many years.

The present movement grew directly out of the revelations of the draft which showed that one third of our young men were unfitted for military service even though the modern army carries on every activity that is found in civil life. It was realized that most of these defects were unnecessary and would have been avoided if these young people had gone through an adequate system of physical education. At the close of the war our leaders decided that it would not do for us to face another war in such a condition. The result has been that thirty-three states have passed laws providing for physical education of all children in the public schools. There are in the public schools under the direction of the state department of education about 100 physical directors on full time and nearly 700 on part time.

The public interest in this matter has been shown by contributions amounting to more than \$12,000 that have come in during the past twenty months to keep this work going. Some of these are \$1,028 from teachers associations, \$610 from medical associations, \$410 from dental associations, \$1,000 from the state tuberculosis association as well as contributions from the P. T. A., the American Legion and from many private individuals.

In most states where physical education is furnished there are from two to three people in the department; Pennsylvania has seven, New York four. Missouri should have at least one assistant in physical education and one in health education.

Three years ago President Coolidge called a conference on outdoor recreation which met in Washington in April, and again last April there was a second conference at which reports of the studies started at the previous conference were given. To this conference all those interested in any phase of outdoor recreation were invited, some 49 organizations in all. They included representatives from national parks, state parks, city playground associations, Boy Scout, Camp Fire Girls, Audubon Societies and many others.

At this conference it was voted to organize similar conferences on outdoor recreation so far as possible in every state. Thus far eighteen of these state conferences have been organized. It seems likely that such a conference will be held in Missouri at some time in the spring and it is hoped that the State Medical Association will send representatives to take part in the general discussions and deliberations.

SIMPLIFIED GROUP DIAGNOSIS

The public is being rapidly awakened to the advantages of Group Diagnosis. As they view the question one can for a fee, which may be a nominal one, go to a clinic and undergo a complete physical examination, including X-ray of the various parts of the body, chemical and microscopic examination of the excretions and the blood. This method is now fully established and needs no elaboration. It entails the least expense to the patient, the greatest economy of time and insures the fullest information essential to the best results.

Many clinics have been established over the country, even in the smaller towns of two or three thousand population, and the majority of these are satisfactory. Heretofore the establishment of a clinic has seemed to involve the expense of a building equipped for that purpose and the attendance of a staff of specialists to conduct it. The time required for this work necessarily must be taken from their office and other practice, and altogether this method of operation makes for heavy overhead charges and an unnecessary call upon the effort of those members of the staff who have work elsewhere.

Therefore it would seem that a diagnostic group could be organized among specialists who have in their own offices all the equip-

ment necessary to the operation of a group, and that this group working together could form a staff and business organization, and obviously with the smallest expense function as effectively as any clinic assembled under one roof.

The plan here presented is very simple. It involves the selection of a man in each specialty who will examine the patients sent to him and pass them on to the next. The patient starts with the internist who takes the history and records his findings upon a card, which, enclosed in an envelope numbered and bearing the patient's name, is given to the office assistant who conducts the patient to the next office, and so on until the round is made. When the case is completed the records go to the internist, where they are summarized and the diagnosis is made. This report is then placed in the hands of the physician referring the case, or in those of any other the patient may designate.

The fees received by group members ought not to be regarded as the essential or even final reward for the service performed. The real reward lies in the prestige obtained from connection with such a staff, careful history taking, thorough physical examination, and in the opportunity for constructive work afforded by consultations with group members over interesting and instructive cases.

The purpose in organizing a diagnostic group is two fold and briefly stated is as follows: First, to reduce the number of errors too often made when the patient is seen only by one physician; second, to develop the skill and broaden the knowledge of the members of the group.

A member of a well known diagnostic group recently remarked in my presence that "it was surprising how much good, group work had done the physicians."

In discussing this plan with different physicians, several opinions have been expressed: that it would require a lot of work to get going; that it would arouse professional jealousy; that it might cause one to lose some referred business. All these things are possible but these possibilities when weighed against the benefits which are certain to come to each individual of the group, are not so important after all.

What we do know is that it is ethical, that it is approved and widely practiced, and that the public is being rapidly sold on the idea.

As a matter of fact, it is only the occasional case among the many cases that pass through the physician's hands that require group diagnosis, and these are the obscure pictures that present vague and indefinite symptoms which

cannot be grouped into a diagnosis without careful study by several men in their respective specialties.

In order that the members of such a group could operate efficiently and effectively, the business end of the plan should be conducted by a manager, preferably a young physician just starting in practice who would write the history, arrange for the appointments and collect the fee. A board of directors composed of three members of the group could direct the business and professional matters that would arise, through the manager.

The radiographic and laboratory equipment should be installed by the members of the group and operated by a technician under the supervision of the radiologist and pathologist respectively, who would interpret the findings.

INTERSTATE POSTGRADUATE ASSEMBLY TO MEET IN KANSAS CITY, OCTOBER 17 TO 22, 1927

Kansas City will be the Mecca of medical men in October, 1927, when the Interstate Medical Society of North America convenes in that city October 17 to 22. The annual fall conference of the Kansas City Clinical Society will be held on Friday and Saturday, October 14 and 15, preceding the convention of the Interstate Postgraduate Assembly. We are informed that the Kansas City Clinical Society has changed its name to the Kansas City-Southwest Clinical Society.

The sessions of the Interstate Postgraduate Assembly have become renowned for the magnitude of the clinical material that is presented to those in attendance, the scope and variety of the discussions covering practically every phase of medical practice. In other sessions, a large number of world famous physicians in America and foreign countries invited as guests of the assembly have been a distinctive feature and the Kansas City session will be no less notable in this respect. The meetings will be held in the Ararat Shrine Temple which has a seating capacity of 4,000, the clinical demonstrations being made in the numerous modern hospitals for which Kansas City is justly famous. Further announcements on the preparations for this occasion will be made from time to time.

CLEVELAND SESSION OF AMERICAN COLLEGE OF PHYSICIANS

The American College of Physicians will hold its eleventh annual clinical session in Cleveland, Ohio, February 21-25, 1927. Dr. Alfred Stengel of Philadelphia is president of The College and Dr. John Phillips of Cleve-

land is the chairman of the program committee. The program will be of unusual interest to internists (including neurologists, roentgenologists, pathologists, dermatologists, psychiatrists and others engaged in the field of internal medicine). The Cleveland hospitals and the Western Reserve University will cooperate with The College in the presentation of the program. These programs constitute each year a postgraduate week on Internal Medicine of outstanding merit.

During the mornings, there will be clinics and demonstrations at the various hospitals and in the laboratories of the Western Reserve University; during the afternoons, papers on various medical topics will be delivered by local members of the profession and by members of The College from other parts of the United States and Canada; during the evenings, there will be formal addresses by distinguished guests, American or foreign, and by the president or other representatives of The College.

The American College of Physicians is a national organization in which internists may find a common meeting ground for discussion of the special problems that concern them and through which the interests of internal medicine may have proper representation. Membership in this organization is limited to those in the field of internal medicine. Its standards are high and many men of distinction in the profession are numbered among its members. An invitation has been extended by The College to all qualified physicians and laboratory workers to attend the Cleveland clinical session. An attendance in excess of fifteen hundred is anticipated.

NEWS NOTES

The Executive Committee has fixed the dates of May 2, 3, 4, 5 for the next annual meeting of the Association at Sedalia.

Dr. George Clark Mosher, Kansas City, presented the subject of "Compulsory Notification of Puerperal Sepsis and Puerperal Pyrexia," before the fourth annual session of the Conference of State Boards of Health, at Washington, D. C., January 11.

The ninth annual meeting of the Western Physiotherapy Association will be held in Kansas City, April 8 and 9, under the presidency of Dr. Lynne B. Greene, Kansas City. The sessions will be held in the Aztec Room of Hotel President.

The Hodgen Lecture of the St. Louis Surgical Society will be given this year by Dr. Daniel F. Jones, Boston, Associate in Surgery at Harvard University Medical School, on February 16 at the St. Louis Medical Society Auditorium. His subject will be "Surgery of the Large Intestine."

During Cancer Week in St. Louis a consultation clinic was held at the St. Louis Medical Society Building to which all persons were invited for free consultation. Over one thousand persons attended during the three days on which the clinic was conducted.

The state board of health met at Jefferson City, January 8, and reelected the officers of the board, as follows: Dr. W. A. Clark, Jefferson City, president; Dr. H. L. Kerr, Crane, vice president; Dr. James Stewart, Jefferson City, secretary and health commissioner.

The Sofie A. Nordoff-Jung Prize for the best contribution in cancer research during the past year has been awarded to Dr. Otto Warburg, Director of the Department of Biology of the Kaiser Wilhelm Institute Berlin-Dahlem. The award was made on the unanimous decision of the commission.

Governor Baker has asked the legislature to abolish numerous boards, commissions, and bureaus which he regards as superfluous. Among the number is the board of nurses' examiners and the board of hair dressers and cosmeticians. Governor Baker suggests that the function of these boards should be transferred to the state board of health.

Dr. L. R. Sante, St. Louis, was the guest of a joint meeting of the Chicago Medical Society and the Chicago Roentgen Society January 12, and read a paper entitled "Radiography—An Indispensable Aid in the Diagnosis of Chest Conditions." Dr. J. M. Martin, Dallas, Texas, was another guest and read a paper on "The Practical Application of X-ray Therapy in the Treatment of Skin Malignancy."

According to news dispatches from Kansas City, Dr. Samuel McCubbin, Kansas City, was arrested at his office by federal authorities, January 13, on a charge of alleged diploma mill operations in Florida, conducted several years ago. He was held under a \$5000 bond for appearance in February at Tampa, Florida. The indictment charges McCubbin and fourteen others with using the mails in a scheme to defraud with fraudulent diplomas.

All dogs in Kansas City must be vaccinated against rabies if an ordinance being prepared by Dr. Caveness, health commissioner, and Mr. Barker, city counselor, is adopted by the city council. Pending the passage of this ordinance, the health department has ordered the vaccination of all dogs. About five hundred have been vaccinated. There is an unusually large number of persons in Kansas City under treatment for possible rabies from dog bites.

The United States Post Office Department announces that the weekly public health reports of the United States Public Health Service are now available to all persons in the United States and its possessions, Canada, Cuba, and Mexico, for the nominal subscription of \$1.50 per year. These reports will be sent with postage prepaid to each subscriber, and represent an innovation by the Public Health Service to further increase knowledge about public health and sanitation. The reports contain information as to the world prevalence of disease, and each issue has special articles by experts on sanitation. Subscriptions should be accompanied by money orders, and sent to the Superintendent of Documents, Government Printing Office, Washington, D. C.

The United States Civil Service Commission announces open competitive examination for the following positions: assistant medical officer, associate medical officer, medical officer and senior medical officer. Applications will be rated as received by the United States Civil Service Commission at Washington, until June 30, 1927. There is especial need for medical officers qualified in tuberculosis or neuropsychiatry for duty at hospitals of the Veterans' Bureau. There are a number of vacancies in positions in the Indian Service which call for training in general medicine and surgery. In addition, there is opportunity for appointment of specialists in practically all branches of the profession. In addition to the Veterans' Bureau and the Indian Service, appointments from these examinations will be made to the Public Health Service, the Coast and Geodetic Survey, the Panama Canal Service, the Departmental Service at Washington and other branches. Applicants will not be required to report for written scholastic tests but will be rated on their education and training and their practical experience. Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examiners at the post office or customhouse in any city.

The following articles have been accepted for New and Nonofficial Remedies:

Cutter Laboratory

Diphtheria Toxin-Antitoxin Mixture 0.1 L.
Eli Lilly & Co.

Cholera Vaccine, Prophylactic,

Plague Vaccine, Prophylactic,

Old Tuberculin Human Strain Concentrated,

Pirquet Test,

Tuberculin Ointment for the Moro Percutaneous Test,

Tuberculin T.R. Concentrated Human Strain,

Tuberculin B.E. Concentrated Human Strain,

Tuberculin B.F. Concentrated Human Strain,

Ampules Glucose (Dextrose U.S.P.) Lilly 10 Gm., 20 cc.

Ampules Glucose (Dextrose U.S.P.) Lilly 25 Gm., 50 cc.

H. A. Metz Laboratories, Inc.

Gynergen

Ampules Gynergen, 1.1 cc.

Tablets Gynergen, 0.001 Gm.

Parke, Davis & Co.

Bismuth Salicylate in Oil-P.D. & Co.

Winthrop Chemical Co.

Tutocain

Tablets Tutocain No. 1 (with epinephrin) 0.03 Gm.

Tablets Tutocain No. 2 (with epinephrin) 0.03 Gm.

Tablets Tutocain No. 3, 0.03 Gm.

Tablets Tutocain No. 4 (with epinephrin) 0.05 Gm.

Tablets Tutocain No. 5, 0.1 Gm.

Cutter Laboratory

Tetanus Antitoxin For Human Use, 10,000 units

Tetanus Antitoxin For Human Use, 20,000 units

Typhoid Prophylactic, 1 cc. syringe

Typhoid Prophylactic, 20 cc. bottle

Parke, Davis & Co.

Scarlet Fever Streptococcus Antitoxin Concentrated Globulin-P.D. & Co., 1 cc.

OBITUARY

HARRY CZARLINSKY, M.D.

Dr. Harry Czarlinsky, former Jackson County Coroner, died at his home, in Kansas City, December 24, 1926. He had been ill several weeks with a heart condition. Dr. Czarlinsky was born in Benton County, Missouri, in 1878. He attended grade school in Kansas City and was graduated from the Central high school of

Kansas City and worked his way through the Kansas City University Medical College, graduating in 1900. Dr. Czarlinsky was a member of the Missouri State Medical Association and a Fellow of the American Medical Association. He was also a member of the American Legion. He is survived by his widow and an adopted daughter.

JOHN WILLIAM TURNER, M.D.

Dr. John William Turner, Louisiana, died at his home at 8 o'clock Saturday morning, December 11, 1926, following a long illness, of heart affection.

Dr. Turner was born near Hallsville, Missouri, August 9, 1877. He graduated in medicine at Missouri University in 1899 and did postgraduate work in the Army Medical School and in Chicago and New York. He had ten years military service in the medical corps of the U. S. Army, serving as hospital steward during the Spanish-American War with rank of major. Heart disease which finally caused his death was contracted while in the army. He married Miss Grace Henry October 10, 1899. His wife and one son survive him. He was a member of the Masonic Order and this organization attended his funeral in a body as did the DeMolay chapter. The pallbearers were Drs. T. G. Hetherlin, J. W. Crewdson, Charles Lewellen, Donnell Pearson. Dr. Turner was held in high esteem by the medical profession of Pike County, having served as Secretary of the Pike County Medical Society for 1926, and he was well liked by all who knew him as was attested by the large number of people in attendance at the funeral.

BOOKS FOR LEISURE MOMENTS

For a refreshing evening after a tired day "Missouri Steamboat" by Herbert and Edward Quick (Henry Holt & Company) offers a lure not to be resisted. There is adventure, thrills and romance in a book of this kind that you do not find in other books of the present day. The first boat to dock at New Orleans would get the business and the accidents and mishaps that took place in the race down the old river were just a part of the game. Incidents, humorous and tragic make up the tale and most of them are close to home for the Missouri river had its share of the trade. The landing points along the river give just a glimpse of those towns in that day and the old river pilot La Barge, who was not afraid of the redskins, and who was a puzzle to the

revenue officers because of the "fire water" he carried aboard is a character unfamiliar to us of today.

The book is fascinating both because of its historical matter and the manner in which the story is told. The authors do not try to be scientific—they simply want to entertain you with the romance and glamor of the "old river days" and they succeed very well.

* * *

There is a book published by Lothrop, Lee and Shepard and written by a Kansas City woman, Lola Pierce, about Kansas City. The title of the book is "The House That Ran Away" and although the book was written for girls it would be interesting to adults. The house ran away during one of the floods which visited Kansas City years ago. It is explored by two little girls of the present day, who find a snuff box. The girls hide the article but a young man finds it and gives it to a young lady friend who uses it for a vanity. The girls also find a note written in code and when deciphered by an old slave results in clearing the name of a Civil War veteran and in the end the snuff box goes back to its original owner.

Miss Pierce was for a number of years in the Kansas City Public Library, and it was there she first saw the snuff box. For this article now reposes in the museum for all to see. The book would be interesting to any loyal adult Missourian.

* * *

And now if you would like to leave Missouri for a while and take a trip to the Northern prairies you might try Martha Ostenso's "The Dark Dawn" published by Dodd Mead and Company. Martha Ostenso will be remembered as the author who won a prize for "Wild Geese" in 1925 and unlike many other prize winners her book was praised instead of being condemned by critics. She has lost none of her genius in her newer book about the prairies. The author has the ability to develop strong characters along with strong drama. Hattie Murker is the dominating character, a woman of the prairie, strong and bold and Miss Ostenso marries her to Lucien Dorritt also of the prairie country, but an entirely different type. Around these two the author weaves a story, thrilling and dramatic, not simply a book to be classed as a seller, but one that will live when others are forgotten.

* * *

"A man ought not to criticize his birthplace,

I presume, and yet if I were to do it all over again I do not know whether I would select that particular spot or not. Sometimes I think I would not. And yet, what memories cluster about that old house. There was the place where I first met my parents. It was at that time that an acquaintance sprang up which has ripened in later years into mutual respect and esteem. It was there that a casual meeting took place which has, under the alchemy of resistless years, turned to golden links, forming a pleasant but powerful bond of union between my parents and myself. For that reason I hope that I may be spared to my parents for many years to come."

And that was the subtle humor of Bill Nye whose son, Frank Wilson Nye, has written a book "Bill Nye, His Own Life Story," published by The Century Company. When the son started to accumulate data for the book he found his father had written his own biography. His letters to friends, newspapers and more personal friends had "forged every important link in the chain of his life story." So the author allows the reader to become acquainted with the famous humorist and one is really unaware of the author himself. Is that not saying a great deal for an author of a biography? P. B. B.

RETRODISPLACEMENT OF UTERUS DURING PREGNANCY AND PUERPERIUM

W. C. Danforth and C. E. Galloway, Evanston, Ill. (*Journal A. M. A.*, Sept. 11, 1926), believe that the importance of retrodisplacement as a pathologic entity has been over-emphasized, and that far too many operations are being done for its correction. They examined the histories of 1,000 private cases in order to ascertain the number of women who had retrodisplaced uteri when first seen, and the number who had retrodisplacement after labor, either as a recurrence of a backward position known to have existed before, or as a newly acquired retrodisplacement. Retrodisplacement during pregnancy or puerperium was present in 188 cases. The author's opinion is that retrodisplacement is a far less important cause of sterility than is commonly believed. Sterility from this cause may occur but it is decidedly not the rule. Retrodisplacement is frequently charged with being the cause of abortion. This is undoubtedly true in a small proportion of cases, but operations for the correction of retrodisplacement should not be frequently done for the purpose of preventing abortion. Retrodisplacement during pregnancy, provided an intelligent vigilance is exercised, need cause little trouble. In 29 per cent. of those seen by the authors, reposition was done and the uterus retained by a pessary. In the remainder, correction ensued spontaneously. Fourteen and four-tenths per cent. shows a backward position at eight weeks post partum. Reposition and retention in the anteфлекed position aids the process of involution but does not invariably cure the displacement permanently.

HOUSE BILL NO. 123 SENATE BILL NO. 40

54th General Assembly
1927

Introduced in the Senate by Senator Mitchell.

Introduced in the House by Dr. Wallace.

AN ACT

To amend article 1, of chapter 65, of the Revised Statutes of Missouri, 1919, entitled, "Medicine, surgery and midwifery," by repealing section 7332, as amended by the 51st general assembly, session acts of 1921, approved April 15, 1921, found on pages 471, 472, and 473 of said acts, as amended by the 52nd general assembly, session acts of 1923, approved March 27, 1923, found on pages 253, 254 and 255, of said acts; and by repealing section 7334 of the Revised Statutes of Missouri, 1919, entitled "Medicine, surgery and midwifery," as amended by the 52nd general assembly, session acts of 1923, approved March 26th, 1923, and found on pages 252 and 253 of said acts; and by repealing section 7338 of the Revised Statutes of Missouri, 1919, entitled, "Medicine, surgery and midwifery," and enacting in lieu thereof three new sections to be known and numbered as section 7332, section 7334 and section 7338, relating to the same subject, with an emergency clause.

Be it enacted by the General Assembly of the State of Missouri, as follows:

Section 1. That section 7332 of an act of the fifty-
2 second general assembly, as found in session acts of 1923, at
3 pages 253, 254 and 255, approved March 27, 1923, en-
4 titled "Medicine, surgery and midwifery," be and the
5 same is hereby repealed and a new section enacted in lieu
6 thereof, to be known as section 7332, relating to the same
7 subject, so that said section, when so enacted, shall read as
8 follows:

Sec. 7332. All persons desiring to practice medicine
2 or surgery in this state, or to treat the sick or afflicted, as
3 provided in section 7330 of this article, shall appear before
4 the state board of health, at such time and place as the
5 board may direct, and there shall be examined as to their
6 fitness to engage in such practice. All persons appearing
7 for examination shall make application in writing to the
8 secretary of the said board thirty days before the meet-

9 ing. They shall furnish satisfactory evidence of their
10 preliminary qualifications, to wit, a certificate of gradua-
11 tion from an accredited high school, or its equivalent, or
12 state normal school, college, university or academy. They
13 shall also furnish satisfactory evidence of having attended
14 throughout at least four terms of thirty-two weeks of actual
15 instruction in each term and of having received a diploma
16 from some reputable medical college that enforces require-
17 ments of four terms of thirty-two weeks of actual instruc-
18 tion in each term, including two years' experience in opera-
19 tive and hospital work at time of graduation; provided
20 that the time of graduation has been since March 12, 1901,
21 and two years' requirements if the date of graduation is
22 prior to March 12, 1901, and shall also furnish evidence of
23 good moral character. The medical examination may be
24 made in whole or in part in writing and shall be of ele-
25 mentary and practical character, but sufficiently strict to
26 test the qualifications of the candidate as a practitioner,
27 and shall embrace the subjects of anatomy, chemistry,
28 physiology, therapeutics, obstetrics, gynecology, surgery,
29 practice of medicine, bacteriology, medical jurisprudence
30 and hygiene, and such other branches as the state board
31 may direct; Provided, that each applicant for license shall
32 have two hours if necessary during which to answer the
33 usual number of questions asked on each branch examined
34 upon. The candidate shall be required to attain an average
35 of seventy-five per centum of all subjects examined on,
36 provided that he must not fall below fifty per centum on
37 any one subject, before being granted a license; Provided,
38 however, that the examination of any applicant in therapeu-
39 tics shall be conducted by the member or members of the
40 said board who represent the system of medicine of which
41 said applicant has been a student. If there shall be no
42 representative of the school or system of which the appli-
43 cant has been a student, the examination in therapeutics
44 shall be conducted by an examiner appointed for that pur-
45 pose by the governor of Missouri, but all examinations other
46 than that in therapeutics shall be conducted as heretofore
47 provided in this article. The board of health shall issue
48 to such persons as they shall find upon examination to pos-
49 sess the requisite qualifications, a license to practice medicine
50 and surgery in accordance with the provisions of this article,
51 and the state board of health shall not be permitted to favor
52 any particular school or system of medicine but all appli-
53 cants shall be subjected to the same examination and the
54 same degree of proficiency shall be required of all; Pro-
55 vided, that in determining the qualifications necessary
56 for registration as a qualified physician the state board of
57 health may, at its discretion, accept the certificate of the
58 national board of medical examiners of the United States,
59 chartered under the laws of the District of Columbia, in

60 lieu of and as equivalent to its own professional examina-
61 tion. Every applicant for a license upon the basis of such
62 certificate shall, upon making application showing necessary
63 qualifications, as above set out, be required to pay the same
64 fee required of applicants to take the examination before
65 the board. And it is further provided that the said board
66 of health may under the regulations established by the board
67 admit without examination legally qualified practitioners of
68 medicine who hold certificates to practice medicine in any
69 state or territory of the United States or the District of
70 Columbia with equal educational requirements to the state
71 of Missouri and that extend like privileges to legally
72 qualified practitioners from this state upon the applicant
73 paying a fee of fifty dollars (\$50.00).

Sec. 2. That section 7334 of an act of the fifty-second
2 general assembly, as found in session acts of 1923, at pages
3 252 and 253, approved March 26, 1923, entitled, "Medicine,
4 surgery and midwifery," be and the same is hereby re-
5 pealed and a new section enacted in lieu thereof, to be known
6 as section 7334, relating to the same subject, so that said
7 section, when so enacted, shall read as follows:

Sec. 7334. Any person practicing medicine or surgery
2 in this state, and any person attempting to treat the sick
3 or others afflicted with bodily or mental infirmities, and any
4 person representing or advertising himself by any means
5 or through any medium whatsoever, or in any manner what-
6 soever, so as to indicate that he is authorized to or does
7 practice medicine or surgery in this state, or that he is
8 authorized to or does treat the sick or others afflicted with
9 bodily or mental infirmities, without a license from the state
10 board of health, as provided in this article, or after the revo-
11 cation of such license by the state board of health, as pro-
12 vided in this article, shall be deemed guilty of a misde-
13 meanor, and punished by a fine of not less than fifty dollars
14 nor more than five hundred dollars, or by imprisonment in
15 the county jail for a period of not less than thirty days nor
16 more than one year, or by both such fine and imprisonment
17 for each and every offense; and treating each patient shall
18 be regarded as a separate offense. Upon receiving infor-
19 mation that any provision of this section has been or is
20 being violated the secretary of the state board of health
21 shall investigate the matter and upon probable cause ap-
22 pearing, shall, under the direction of the board, file a com-
23 plaint with the prosecuting or circuit attorney in the county
24 or city where the alleged offense occurred. It shall be the
25 duty of the prosecuting or circuit attorney upon request of
26 the secretary to take charge of and conduct such prosecu-
27 tion. Any person filing or attempting to file as his own, a
28 license of another or a forged affidavit of identification, shall
29 be guilty of a felony and upon conviction thereof, shall be

30 subject to such fine and imprisonment as are made and pro-
31 vided by the statutes of this state for the crime of forgery
32 in the second degree. Provided, that physicians registered
33 on or prior to March 1, 1901, shall be regarded for every
34 purpose herein as licentiates and registered physicians under
35 the provisions of this article.

Sec. 3. That section 7338 of article 1, chapter 65 of the
2 Revised Statutes of Missouri, 1919, entitled "Medicine,
3 surgery, and midwifery," be and the same is hereby re-
4 pealed and a new section enacted in lieu thereof, to be
5 known as section 7338, relating to the same subject, so that
6 said section, when so enacted, shall read as follows:

Sec. 7338. It is not intended by this article to pro-
2 hibit gratuitous service to and treatment of the afflicted, and
3 this article shall not apply to commissioned surgeons of the
4 United States army, navy, and United States public health
5 service while in the performance of their official duties, nor
6 to any licensed practitioner of medicine and surgery in a
7 border state attending the sick in this state provided he
8 does not maintain an office or appointed place to meet
9 patients or receive calls within the limits of this state, and
10 provided, that such practitioner comply with the statutes
11 of Missouri and the rules and regulations of the Missouri
12 state board of health relating to the reports of births, deaths
13 and contagious diseases, nor shall this article apply to the
14 provisions of chapter 79, Revised Statutes of Missouri,
15 1919. And this article shall not apply to persons who en-
16 deavor to cure or prevent disease or suffering by spiritual
17 means or prayer, provided that quarantine regulations re-
18 lating to contagious diseases are not infringed upon. Pro-
19 vided further, that no provision of this section shall be con-
20 strued or held to interfere in any way with the enforcement
21 of the rules and regulations adopted and approved by the
22 state board of health or any municipality under the laws of
23 this state for the control of infectious or contagious diseases.

Sec. 4. It is hereby declared that this act is neces-
2 sary for the immediate preservation of the public welfare,
3 health and safety, and in the opinion of the general assembly
4 an emergency exists, and therefore, this act shall take effect
5 and be in full force from and after its passage.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1927

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Camden County Medical Society, December 31,
1926.

Holt County Medical Society, January 21, 1927.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

One Hundred and Twenty-fifth Meeting, Decem-
ber 13, 1926

1. PRESENTATION OF CASES.

A. PREGNANCY IN A PATIENT WITH MYELOGENOUS LEUKEMIA.—By DR. R. J. CROSSEN.

A Polish woman, 36 years old, with six living, healthy children and four children dead, was found to be pregnant on examination at the Washington University Obstetrical Dispensary. Her family and past history were essentially negative except as follows: Fifteen months ago, when her last child was four months old, because of pain in the left side, fever and general malaise, she was admitted to Barnes Hospital where a diagnosis of myelogenous leukemia was made.

At that time she had a very greatly enlarged spleen and liver, 3,450,000 red cells with 60 per cent. hemoglobin and 350,000 leucocytes, most of which were myelocytes, and a slight irregular fever. With vitamin treatment no improvement resulted, but later X-ray therapy was followed by decrease in the size of the spleen and the diminution of the white cells.

During her stay in the hospital and after discharge the X-ray treatments were continued apparently with good effect on reducing the myelocytes in the blood. The white count was usually around 100,000, varying from 70,000 to 146,000 during the treatments. Her general condition has remained good.

She was approximately 20 weeks pregnant when the pregnancy was first noted. The points of interest are: (1). The decision as to whether the pregnancy should be terminated. (2). The effect of the X-ray treatments on the leukemia and if continued, their possible effect on the pregnancy. (3). The desirability of splenectomy to allow for the uterine enlargement if the pregnancy is allowed to continue.

DISCUSSION

Dr. F. J. Taussig mentioned that from the reported cases of acute leukemia, the outlook is extremely bad in the acute forms and that the chronic forms are also unfavorably influenced by pregnancy. He felt that the good condition of the case reported did not justify the interruption of pregnancy. It was interesting that the X-ray treatments given before pregnancy did not affect conception and this was due to the fact that the pelvis was carefully protected during the treatment. He agreed that the removal of the spleen was not justified at the present time.

Dr. H. L. Alexander was not sure that it was advisable to allow pregnancy to continue in a patient showing an anemia of 3,000,000 red cells and with the known unfavorable influence of pregnancy on leukemia. He thought that the termination of pregnancy should be seriously considered.

Dr. Louis Cohen cited the very decided drop which occurred in the leukocyte count of this patient after X-ray treatment and the interesting observation that sometimes this drop did not occur for a number of weeks after the X-ray exposure. The presence of pregnancy was possibly not recognized earlier because the amenorrhea was attributed to the X-ray treatments.

Dr. L. D. Thompson stated that since the average duration of chronic leukemia is about five years, and since the unfavorable effect of pregnancy on such cases is well recognized, one would argue, from a humanitarian standpoint that any means by which the patient's life could be prolonged would be justifiable. Therefore, since this woman already has a number of children and since all measures necessary to prolong life should be carried out, the termination of pregnancy should be carefully considered.

Dr. Richard Paddock reminded the previous speakers that the interruption of pregnancy, while relatively readily accomplished in the early stages, at this period is not without a very considerable strain and risk to the patient. In fact, the induction of labor at this period of gestation is attended with practically the same strain and shock to the patient as labor at term. So long, therefore, as this patient shows so little evidence of any unfavorable effect he believes that it is, in this case, advisable to allow the pregnancy to term.

2. CHANGES IN METABOLISM AND THEIR RELATION TO THE TREAT- MENT OF VOMITING OF PREG- NANCY.—By DRs. WM. J. DIECKMANN, and R. J. CROSSEN.

In 1924 we stated that vomiting of pregnancy was due to a deranged carbohydrate metabolism, caused by inability of the maternal organism to meet the unaccustomed demands of the fetus for glucose. The prophylaxis and treatment presuppose large amounts of carbohydrate.

Our results at that time were very good and a continuation of the same method of treatment has been so successful that we have had no therapeutic abortions since 1921. We have had two deaths. In both cases the autopsies showed no pathology sufficient to have caused death. We believe that death in both cases may have been due to long periods of semi-starvation, with resultant depletion of glycogen, protein and salt stores.

In vomiting of pregnancy the factors of vomiting, starvation and dehydration are predominant, and they and their respective sequelae produce the signs and symptoms and the blood and urine changes noted, not only in vomiting of pregnancy but also in any marked vomiting, whether due to pyloric or high intestinal obstruction, intestinal fistula, or pyelitis.

We classify our cases into three groups: mild, moderate and severe. The latter two differ only in degree. The mild cases are treated by high carbohydrate diet at frequent intervals, with midnight and early morning feedings in addition. Luminal as a sedative is given by mouth. The bowels are regulated and any nose or throat disturbance is treated. Dilute hydrochloric acid in 0.6 to 1.00 cc. doses, three or four times daily, has been found more efficacious than NaHCO_3 .

We believe that time is saved by treating intensively all cases where vomiting is marked. The plan which we follow rather closely follows:

- (A) 1. Nothing by mouth for forty eight hours.
2. Daily enema.
 3. Luminal sodium 0.12 g q 6 hr. day and night.
 4. Normal saline solution, 1000-1500 cc. twice daily.
 5. Intravenous glucose, 10 per cent. solution, 1000 cc. three times daily, or 1500 cc. twice daily. Occasionally 500-1000 20 per cent.
 6. Use of 5-6 gm. NaBr. in starch water as R.T. once or twice daily.
- (B) 1. Insertion of the Andrews nasal tube for forty eight hours or more.
2. Injection of 10 per cent. Karo syrup with 2 to 5 per cent. Dryco or skimmed milk, beginning with 50 cc. q 1 hr., and increasing up to patient's tolerance (usually the maximum is 300 cc. 1 hr.). The concentration of Karo may have to be decreased if glycosuria or diarrhea ensue.
 3. The use of luminal through tube instead of L.S. hypodermically.
- (C) Removal of tube and beginning of dry diet which consists of cereals, toast, crackers, potatoes, lean meats, etc., from 6 a. m. to 8 p. m., with midnight and early morning feeding. Patients to receive fluids (fruit juices, etc.) in intervals. This diet is gradually increased, but midnight and early morning feedings are continued throughout pregnancy.

CONCLUSIONS

1. Vomiting of pregnancy is due to a deranged metabolism of the maternal organism, particularly of the carbohydrates.
2. The pathological urine and blood analysis and the signs and symptoms of the patient are results of the vomiting, starvation and dehydration.
3. Severe vomiting of pregnancy is characterized by normal or increased CO_2 low normal or decreased chlorides, and normal or increased N.P.N.
4. Alkalies in the treatment are not only indicated, but are actually harmful, for there is either a normal acid-base balance, a compensated alkali excess (normal P_H and high CO_2), or compensated alkali deficit (normal P_H with a low CO_2). The latter finding is rare.
5. Vomiting of pregnancy is treated by supplying the deficiencies; that is, food, fluid, and salts.
6. A general plan is outlined, but each case must be individualized.
7. There is no danger from intravenous glucose providing the tenets outlined by us are obeyed.
8. Experimental work indicates that insulin with intravenous glucose restores glycogen stores much more quickly than intravenous glucose alone and, if true, insulin with glucose is indicated in vomiting of pregnancy.
9. We believe that systematic study of the metabolism in general, and particularly of the carbohydrates, together with a study of the acid-base balance of the body will enlighten us more as to the etiology, pathology, and treatment than speculations in "toxins," deranged glandular function, etc.

DISCUSSION

Dr. F. J. Taussig pointed out that the results of this treatment have been very gratifying and alter the viewpoint of ten years ago when many abortions were performed in hyperemesis of pregnancy. However, he felt that we should look beyond the disturbed metabolism to attempt to discover its origin. While the evidence was inconclusive, one should, in his opinion, investigate the possible influence of endocrine functions upon this toxemia, and he believes that the use of endocrine therapy is justifiable for this reason in addition to the glucose injections. Corpus luteum intravenously may be used early, but later, if the symptoms become severe, the treatment outlined by Dr. Dieckman is necessary.

Dr. W. H. Olmsted expressed the opinion that

vomiting seems to explain all the blood findings shown and that the treatment outlined corrects many of these changes. He suggested that it is worth while to study the urine and blood before and after the glucose administration and that if hyperglycemia occurred as the result of the rate at which the glucose was introduced, the use of insulin would, in his opinion, be indicated.

3. THE USE OF TRYPARSAMIDE IN NEUROSYPHILIS.—By Drs. S. I. SCHWAB and LEE D. CADY.

This report embodies the data on 230 neurosyphilitic patients on tryparsamide treatment. In general they were given a dose of tryparsamide at 10 or 14 day intervals, rotating with mercury or bismuth and one of the arsphenamines. The patients with ocular disturbances received special consideration (Cady and Alvis).

These data give us a cross-section view of the entire series. About one third are no longer under treatment and they are included as of their last known condition. The length of treatment periods varies from 10 weeks to 32 months. Of the entire series, 59.1 per cent. were clinically improved and 27.4 per cent. were clinically arrested. Thirteen and four tenths per cent. were worse (including dead from all causes). The serological data are not up to date, but 61.7 per cent. were improved and 38.2 per cent. were unimproved at the time of their last blood and spinal fluid examinations. Three per cent. had subjective ocular disturbances sufficient to withhold treatment temporarily and 3.5 per cent. had objective ocular disturbances. This last includes 3 patients blinded, two by the treatment and one in whom treatment had no apparent effect. One of these patients recovered good central vision.

From an economic viewpoint 66.9 per cent. were unable to work, 14.3 per cent. were working part time, and 18.7 per cent. were working full time at the beginning of treatment. At the time of analysis, 31.7 per cent. were not working, 19.5 per cent. were working part time, and 48.7 were working full time. The cerebrospinal syphilis patients made the best showing. As a group the tabetic patients were only slightly improved. Considering the gloomy outlook of paretics before the advent of tryparsamide, the paretics made a remarkable improvement. At the beginning only 3 per cent. were doing any kind of work and at the time of analysis 60.3 per cent. were working part or full time.

These results are better than results with malaria inoculations for the treatment of paresis. Our induced clinical remissions are 4 or 5 times, and the malaria remissions are 3 or 4 times what might be expected to occur naturally. With tryparsamide one may hope to cure the patients of syphilis if we can judge by the thirty patients now serologically negative. Such is not the case with malaria treatment. Tryparsamide is the method of choice, but malaria has a useful place in the treatment of paresis.

DISCUSSION

Dr. Sidney Schwab stated that many persons do not realize the importance and value of this method of treatment and contrasted the status of paretics under the pre-tryparsamide régime with that in a well regulated clinic using the newer treatment. Previously when a diagnosis of paresis was made, the patients were usually sent to an institution and allowed to deteriorate quickly or slowly as the case might be. Now, with tryparsamide, these same patients show a marked improvement, and it is noticeable that they take a definite interest in their condition and their improvement, quite in contrast with

paretics not treated in this way. He emphasized the fact that private patients under tryparsamide treatment show a more marked improvement even than those of the dispensary class. The present outlook for paretics with tryparsamide treatment is therefore good.

The danger in the use of the drug under proper control is small and only a small percentage of patients show ocular disturbances if the precaution mentioned by Dr. Cady of a preliminary course of treatment by mercury and arsphenamine is observed. Such ocular disturbances as occur are slight and transient. The treatment should be individualized in each case, according to the indications observed, rather than the same routine type of treatment to all. He pointed out that the ideal of therapy is not necessarily to return the patient to the same occupation which he followed before therapy was started, if this involves marked mental stress, but rather to secure an occupation for him which would be attended by less strain upon the higher centers.

Whereas good results are obtained in paretics and cerebrospinal syphilis, tabes is not so successfully treated because, in his opinion, such cases are much sicker and are complicated by more serious derangements in various functions than are the paretics.

The tryparsamide therapy is much to be preferred to the malarial treatment on account of the very high mortality of from 10 to 50 per cent. which attends the latter.

Dr. Cady, in closing, remarked that tryparsamide acts apparently not by its spirocheticidal effect, but by stimulating the individual's resistance and ability to overcome the infection. One cannot predict at the outset which patient will be favorably affected by tryparsamide therapy, although, in general, tabetics and taboparetics do not respond as favorably as patients with uncomplicated paresis.

BOONE COUNTY MEDICAL SOCIETY

The Boone County Medical Society met at Columbia, January 4, 1927. The meeting was called to order by the president, Dr. Lloyd Simpson, at 8:00 p. m. The minutes of the December meeting were read and approved. Those present were: Drs. Lloyd Simpson, F. G. Nifong, A. W. Kampschmidt, F. E. Dexheimer, F. B. Williamson, R. S. Battersby, D. A. Robnett, S. D. Smith, W. O. Fischer, F. C. Suggett and H. P. Muir.

The secretary read a letter from Dr. E. S. Harris requesting a transfer. Dr. Kampschmidt moved that Dr. Harris be granted a transfer, which motion was seconded by Dr. Nifong and passed.

Dr. Simpson will appoint standing committees for 1927 before the next regular meeting. Dr. Nifong urged a program for every coming meeting. Dr. Simpson suggested that a paper be read or an interesting case be reported at every meeting.

H. P. MUIR, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

Our final meeting for 1926 was held in the Major Hotel, Liberty, Thursday, December 30, at 2:00 p. m. The afternoon was devoted to the clinical study of skin diseases, several patients being on hand for diagnosis and treatment. Dr. Richard L. Sutton, Kansas City, conducted the "round-table" symposium and took advantage of the opportunity to give us many valuable suggestions, all of which were drawn from his large experience and observation.

Dr. Sutton is one of those rare personalities to whom the practice of medicine is everything. He abounds in an atmosphere of hard work and was at

his best here in Liberty, which he averred was the same as home to him. I wish I had space to report the meeting more fully.

The invasion of Excelsior Springs by organized quackery was brought up and sharp lines were drawn expressly condemning any and all mingling with advertising concerns operated strictly for personal and corporate gain under the guise of "specialism." No violations of the code of ethics will be tolerated by the Clay County Medical Society.

Officers elected for 1927 were: W. H. Goodson, Liberty, president; J. F. Rupe, Smithville, vice president; J. J. Gaines, Excelsior Springs, reelected secretary-treasurer; C. H. Suddarth, Excelsior Springs, censor for three years; J. H. Rothwell, Liberty, censor for one year; J. R. Woods, Smithville, delegate; F. H. Matthews, Liberty, alternate.

The Ladies' Auxiliary met in business session and elected Mrs. F. H. Matthews to succeed Mrs. E. E. Peterson, Nashua, who will be unable to attend meetings for several months while Dr. Peterson is in New Orleans taking a postgraduate course in Tulane University.

The work of the afternoon being concluded, the Major Hotel spread for us a sumptuous holiday dinner to which thirty members and their wives sat down at 6:30 p. m. The Major Hotel people know exactly how to make one feel at home, though a guest. The event will long be remembered as a very pleasant one.

At 7:30 p. m. the Fortnightly Study Club, Liberty's well known ladies' organization, invited us to attend their program meeting at the Methodist Church. A male quartet furnished beautiful and appropriate music, after which Dr. Sutton, aided by his illustrator, screened some 250 pictures of his adventures in big game hunting in Africa, the entertainment taking over an hour. This was a treat thoroughly appreciated by an audience that packed the splendid church auditorium.

Nobody dozes while Dr. R. L. Sutton is on the platform. He gave the sportsmen present, including Dr. Rothwell and the writer, some crisp advice as follows: "If you can't hit a full grown tiger at seventeen feet you better refrain from tiger hunting; if you can, however, it's no more dangerous than shooting rabbits."

The thing is worth looking into, anyhow.

J. J. GAINES, M.D., Secretary.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met in the County Court room at Clinton, Nov. 17, 1926, with the following members present: Drs. J. G. Beaty, R. D. Haire, W. E. Baggerly, J. R. Wallis, G. S. Walker, E. C. Peelor, S. W. Woltzen, S. A. Poague, N. I. Stebbins, and F. M. Douglass. There were also present, Dr. A. C. Ward, Osceola, and Dr. J. W. Crabtree, Clinton.

Dr. E. Lee Miller, Kansas City, read a paper on "The Gallbladder Patient." This was discussed by Drs. Stebbins and Ward.

Dr. S. H. Snider, Kansas City, read a paper on "The Modern Methods in the Treatment of Tuberculosis." This was discussed by Drs. Stebbins and Beaty.

A vote of thanks was given Drs. Miller and Snider for their excellent papers and they were elected to honorary membership in our Society.

The following officers were unanimously elected for 1927: W. E. Baggerly, president; J. G. Beaty, vice president; S. W. Woltzen, secretary-treasurer; R. D. Haire, alternate delegate.

S. W. WOLTZEN, M.D., Secretary.

HOLT COUNTY MEDICAL SOCIETY

Oregon, Mo., December 16, 1926.

Dr. E. J. Goodwin, Secretary
Saint Louis, Missouri
Dear Doctor:

I am sending you some of the particulars of the recent diphtheria campaign launched by the medical fraternity of Holt County, together with the results. Use as much or little of it for *THE JOURNAL* as seems profitable to you.

Fraternally yours,
W. S. Wood, M.D.

The Campaign Started

On Thursday, November 4, 1926, at the regular monthly meeting of the Holt County Medical Society, Dr. R. L. Russell, of the State Board of Health, appeared before us with a suggestion to put on an educational campaign in this county as to the use of toxin-antitoxin for the prevention of diphtheria. The President, on motion, appointed Drs. J. L. Cox, of Fortescue, and E. F. Kearney and W. S. Wood, of Oregon, as a public health committee with full power to act for the Society. This committee met at the office of Dr. Wood on Sunday afternoon and organized with Dr. Kearney as chairman and Dr. Wood as secretary. After a liberal discussion of the matter in hand, the following letter was adopted and made a part of the minutes of the committee:

Notice to the Public

Whereas, the Holt County Medical Society and its individual members, as elsewhere, have been and are the leaders in this county in the fight for the prevention of disease endangering the public health, therefore, in order to awaken public interest in diphtheria immunity and to protect such individuals as may avail themselves of the opportunity, the Holt County Medical Society, the County Health Department and the State Board of Health, co-operating, will administer, *Free of Charge* on the dates specified, at the respective offices of the undersigned members of the Holt County Medical Society, toxin-antitoxin for diphtheria immunization. This toxin-antitoxin will prevent diphtheria in almost all cases. It will develop immunity, more or less permanent, in about three months. During an epidemic, or for recent exposure, antitoxin is preferable, for the reason that it will develop immunity at once, but it will not last more than two or three weeks. The most dangerous cases develop between the ages of six months and seven years, and it is very important that all children, especially between these ages, should be treated. Parents are urged to bring their children to the physician of their choice who will be glad to serve them. This will prevent loss of time from school and the serious results of diphtheria, which is now a preventable disease. The immunization consists of three treatments, at one week intervals. No children will be treated free who do not begin by the first day of the second week.

Farmers vaccinate their livestock to prevent disease. Why not give your children as much consideration as you do your livestock? Why not give your children this advantage when there is no risk and no charge?

The dates for the above will begin Monday, November 15, and end Saturday, December 11, 1926. After this date the regular fee of \$6 will be charged. All serum will be furnished free with the service.

The days when and where this service will be rendered, will be as follows: Mondays at Maitland, Tuesdays at Mound City, Wednesdays at Craig,

Thursdays at Fortescue, Fridays at Forest City and Saturdays at Oregon. Please remember the day and place.

DR. IRA WILLIAMS, Maitland.
DR. F. E. HOGAN, Mound City.
DR. D. C. PERRY, Mound City.
DR. J. C. TRACY, Mound City.
DR. R. R. MILLER, Mound City.
DR. J. M. DAVIS, Craig.
DR. J. C. OTTMAN, Craig.
DR. J. L. COX, Fortescue.
DR. F. E. BULLOCK, Forest City.
DR. E. F. KEARNEY, Oregon.
DR. J. F. CHANDLER, Oregon.
DR. W. S. WOOD, Oregon.

This letter was published in the four newspapers of the county during the week of November 7. The campaign went over big from the start. During the second day of the campaign our supply of serum was exhausted and more was ordered by wire. This order for serum was doubled and quadrupled several times before the campaign was closed. During the second week of the campaign the following letter was published in the Oregon *Sentinel*, which I think is self-explanatory:

To the Public.—Progress of the Campaign

The free toxin-antitoxin administration is going over big. There were eighty-six at Maitland the first day, and a hundred twenty-five to fifty at Mound City. Let's all rally and put it over big in Oregon and vicinity. If you can't be present Saturday the 20th, you have another chance for free treatment the following Saturday, the 27th. In November *Harpers* there is an article on this subject that it will pay you to read. Diphtheria *can* be stamped out if everybody will avail themselves of this treatment. It is very effective and there is very little risk. Give your children this advantage. King Grove school, with Miss Barber as teacher, dismissed for a day so the children could get this treatment. About 85 or 90 per cent. of all children are susceptible to this disease. In the San Jose Teachers College Training School 81.4 per cent, susceptibility was found, according to the Public Health Report for 1925. Only 26 per cent. of these were school-children, while 74 per cent. were young men and women from rural high schools.

Your child may be the victim of this disease. The previous administration of whooping-cough serum will not materially interfere with the administration of T-A treatment. A campaign in New York promises to stamp out this disease in the state by 1930. Let's put Missouri up among the best in matters of public health, with Holt as a banner county. The Public Health Committee of the Holt County Medical Society has investigated this matter and believes it to be advisable and safe. Everybody has a second chance during the second week in their respective towns, if they cannot come on the stated date of the first week. Better get it; it's worth while. No *free treatments* will be begun after the second week.

W. S. Wood, M.D., Secretary,
Public Health Committee.

When the campaign was closed we found that one hundred eighty, 30 cc. bottles of toxin-antitoxin had been purchased, and one thousand six hundred fourteen complete immunizations of three inoculations each, had been administered. There was almost one hundred per cent. of those who took the first dose, returned and finished the treatment. We feel that we have done a good work, and that these facts should be offered to others if they care to use

them. We are planning other campaigns for the near future. Dr. R. R. Miller is our efficient health commissioner. Dr. O. C. Gebhart, a member of our Society though not in active practice, deserves not a little credit for the success of this campaign. Our Society is in good working order, meeting once each month in the various towns of the county. Our annual meeting will be held in Mound City on January 6, when new officers for the ensuing year will be elected. We wish, through you, to extend the Season's Greetings to all our fellows, yourself included, and wish for scientific medicine and all who practice it their most prosperous and happy year.

Fraternally yours,

THE PUBLIC HEALTH COMMITTEE, OF THE
HOLT COUNTY MEDICAL SOCIETY.

W. S. WOOD, M.D., Secretary.

The Holt County Medical Society held its regular monthly meeting at the Public Library in Mound City, Thursday afternoon, Jan. 6, 1927. Ten members were present. The minutes of the previous meeting held at Maitland were read and approved.

In accordance with the by-laws the assembly first convened in annual session and the business of electing officers for the ensuing year resulted in the election of D. C. Perry, Mound City, president; J. C. Ottman, Craig, vice president; O. C. Gebhart, Oregon, secretary and treasurer; O. C. Gebhart, Oregon, delegate; W. S. Wood, Oregon, alternate.

Dr. F. E. Bullock, retiring president, reviewed the work of the Society during the past year and expressed his appreciation of the cooperation the members have given to establish the monthly meeting plan. A well arranged scientific program was presented at each meeting.

Dr. J. F. Chandler, secretary and treasurer, reported twelve meetings during the year, a quorum being present at each assembly. Balance in treasury \$14.87.

The special Public Health Committee through Dr. Wood, Secretary, presented a final report on the free administration of toxin-antitoxin for diphtheria immunization. 1800 received this treatment. The report was received and ordered filed. Dr. Gebhart reported that the county court had allowed the bill for toxin-antitoxin serum used to date and that warrant had been drawn.

A letter was read from the superintendent of public schools at Maitland, expressing the appreciation of the faculty for the worthy efforts of the Holt County Medical Society in administering diphtheria toxin-antitoxin to children in their school. The letter was ordered filed.

A bill for \$1.80, expense of the secretary, was allowed and warrant ordered drawn.

Dr. Bullock reported that he had accepted the appointment as local chairman of organization for cancer week which will be observed at an early date.

The president called upon one of the guests, Dr. Hunter, who responded and complimented the Society upon its splendid spirit of public service and scientific endeavor.

Dr. Austin McMichael, Councilor 1st District, made a short talk and expressed his gratification to hear the reports for the past year.

Cases were reported by Drs. Kearney, McMichael, Wood and Bullock.

Dr. D. C. Perry led the discussion on "Influenza." Drs. Kearney, Wood, McMichael, Davis, Bullock, Miller and Hogan continued the discussion which was closed by Dr. Perry.

Craig was selected as the place of meeting the second Thursday in February.

President elect, Dr. D. C. Perry, announced that standing committees will be appointed and a list published at a later date.

OLIVER C. GEBHART, M.D., Secretary.

NODAWAY COUNTY MEDICAL SOCIETY

The Nodaway County Medical Society held its regular meeting January 14, 1927, at St. Francis Hospital, Maryville. Members present: Drs. C. T. Bell, K. C. Cummins, H. S. Dowell, L. E. Dean, C. P. Fryer, C. D. Humbert, C. V. Martin, R. C. Person, F. M. Ryan, W. M. Wallis, Jr., F. C. Wallis, C. W. Kirk, H. S. Maxwell and H. S. Rowlett.

Dr. J. H. Parker, Superintendent of the State Hospital No. 2, St. Joseph, and Drs. Romaier, Bunch and Coon, members of the State Hospital staff, were guests at this meeting.

Dr. Parker spoke at length on state hospitals for the insane and discussed some of the methods of treatment now being used for mental derangements.

Dr. Romaier conducted a short clinic in which he demonstrated some of the more prevalent mental conditions of childhood.

H. S. DOWELL, M.D., Secretary.

PERRY COUNTY MEDICAL SOCIETY

The Perry County Medical Society held a meeting in the office of Dr. D. F. Morton, Perryville, December 21, 1926, and elected the following officers for the year 1927: President, D. F. Morton; vice president, T. F. Estel; secretary and treasurer, G. A. Blaylock. Several members paid their back dues for 1926 and others paid for 1927.

A general discussion of the Society's influence in the community and keeping up their activities was an interesting phase of the meeting.

G. A. BLAYLOCK, M.D., Secretary.

RANDOLPH COUNTY MEDICAL SOCIETY

The Randolph County Medical Society held its first monthly meeting of the year, in the Chamber of Commerce rooms at Moberly, Tuesday evening, January 11. Those present were: Drs. R. D. Streeter, F. L. McCormick, T. S. Fleming, C. K. Dutton, D. A. Barnhart, J. Maddox, G. O. Cuppaide and C. H. Dixon.

The meeting was called to order by the new president, Dr. Fleming. The minutes of the December meeting were read and approved. Caring for telephone calls and making a minimum charge for those of a professional character was discussed. The matter of the consolidation of the Randolph, Macon and Monroe County Societies into a Tri-county Society was also discussed and the secretary, Dr. Dixon, was instructed to take up the matter by correspondence with the other societies.

Dr. Fleming presented a paper and charts on diabetic diets and suggestions for care and treatment. This paper so impressed the Society with its merit that Dr. Fleming was asked to present the article to the State Journal for publication.

The usual "get together" luncheon, which is a real feature of our work, was held after adjournment.

We are planning and hoping for a progressive year.

C. H. DIXON, M. D., Secretary.

SALINE COUNTY MEDICAL SOCIETY

The regular meeting of the Saline County Medical Society was called to order in the dining room of the

Ruff Hotel at Marshall, January 12, at 1:30 p. m., with Dr. F. A. Howard, president, in the chair. Twelve members were present.

The meeting was preceded by a luncheon at which the Auxiliary, three members of the board of trustees of the Fitzgibbon Memorial Hospital and Presiding Judge Robert Hyatt, of the Saline County Court, were guests.

The minutes of the last meeting were read and approved. The Chair appointed a committee, composed of Drs. A. E. Gore, D. F. Manning and B. M. Spotts, to draft resolutions on the death of Dr. Thomas B. Hall, who died on August 4, 1926.

The secretary, Dr. H. R. Conway, announced that Dr. E. E. Brunner, superintendent of the Missouri State School at Marshall, extended an invitation to the Society to hold the February meeting at that place, promising a program on the endocrine disturbances with clinical material illustrating the different types. The invitation was unanimously accepted.

The application for membership of Dr. R. P. Crank, assistant physician at the Missouri State School, was read and referred to the board of censors.

An hour or more was spent in listening to talks by members of the hospital board and Judge Hyatt, relative to the financial condition of the hospital and the care of charity cases in this institution. Other members of the Society also made talks regarding the welfare of the hospital.

H. R. CONWAY, M.D., Secretary.

ST. CHARLES COUNTY MEDICAL SOCIETY

The annual banquet of the St. Charles County Medical Society was held in St. Charles, January 20, 1927. Among the guests were Dr. Emmett P. North, St. Louis, former president of the Missouri State Medical Association and also former president of the Missouri State Board of Health; Dr. E. J. Goodwin, the secretary of the Missouri State Medical Association; General J. Henry Carruthers, formerly Assistant Attorney General, and Dr. Vincent L. Jones, St. Louis.

Dr. T. L. Hardin, president of this Society, acted as toastmaster. Many elegant speeches were made by our guests and by members of the Society.

One of the features of the evening was the initiation of the guests and younger members of the Society into the order of "Bobo," this being a distinctive feature of each annual meeting. Dr. F. J. Tainter, St. Louis, and Dr. B. Kurt Stumberg, St. Charles, acting as masters of ceremony, persuaded the reluctant candidates to bow before the fattened pig.

We appreciate the visits of our out of town friends and will welcome them at any of our meetings.

L. E. BELDING, M.D., Secretary.

STE. GENEVIEVE COUNTY MEDICAL SOCIETY

The Ste. Genevieve County Medical Society held its annual meeting December 8, 1926, with vice president Dr. J. A. Wilkins in the chair. The minutes of the previous meeting were read and approved. The treasurer's report for the year 1926 was read and approved. After disposing of routine business, the election of officers for the year 1927 was held and resulted in the following being unanimously elected to serve: C. J. Clapsaddle, Ste. Genevieve, president; J. A. Wilkins, St. Marys, vice president; R. W. Lanning, Ste.

Genevieve, secretary-treasurer; J. A. Wilkins, delegate; G. M. Rutledge, Ste. Genevieve, alternate. Board of censors: Drs. C. J. Clapsaddle, G. M. Rutledge and J. A. Wilkins. Committee on Public Health and Legislation: Drs. J. M. Shirley, St. Marys, G. M. Rutledge and R. W. Lanning.

On motion, the meeting adjourned until the second Wednesday in January, 1927.

R. W. LANNING, M.D., Secretary.

SOUTHWEST MISSOURI MEDICAL SOCIETY

The fall meeting of the Southwest Missouri Medical Society was held at Springfield, Thursday and Friday, October 28 and 29, 1926. Dr. H. A. Lowe, Springfield, President in the Chair, and, in the absence of Dr. W. R. Beatie, Springfield, Recording Secretary, Dr. Jos. W. Love, Springfield, Corresponding Secretary, acting as Secretary of the meeting. All sessions were held in the Ordinary of the Colonial Hotel.

The meeting convened at 10:30 a. m., and, after a short business session, proceeded at once to the scientific program, which was a "Symposium on Internal Medicine" with the presentation of patients.

Dr. Urban J. Busiek, Springfield, discussing the subject of "Pediatrics," presented a number of children illustrating (1), forms of infantile hernias; (2), intestinal parasitism, with special reference to *ascaris lumbricoides*; (3), certain obscure forms of mild chronic suppurative inflammation of the middle ear and mastoid in children, causing gastro-intestinal irritation with malnutrition; the symptoms of which latter condition promptly disappeared after simple paracentesis of the drum membrane, and this, in some cases at least, without manifest purulent discharge having issued from the middle ear cavity following the operation.

Dr. Busiek's cases were discussed by Dr. W. E. Handley, Springfield, and Dr. R. M. Rogers, Mansfield.

Dr. A. L. Anderson, Springfield, discussed the subject of "Lung Abscess" with exhibition of radiograms and lantern slides.

The subject was discussed by Dr. W. J. Bryan, Mount Vernon Tuberculosis Sanatorium; Dr. Jabez N. Jackson, Kansas City; Dr. Wm. Rienhoff, Sr., Springfield; Dr. Wm. Rienhoff, Jr., Baltimore, and Dr. F. T. H'Doubler, Springfield.

At the afternoon session Dr. Guy D. Callaway, Springfield, dealt with the subject of "Clinical Features of Auricular Fibrillation."

Dr. Francis P. Camp, Springfield, discussed the subject of "The Importance of a Routine Urological Examination of all Patients Applying to the Physician for Relief."

Dr. Leslie R. Webb, Springfield, prefaced his remarks by the reading of a formal and very scientific thesis on the subject of "Chronic Cholecystitis."

Dr. Edw. C. Mason, Springfield, gave an interesting extemporaneous discussion of the subjects of "Diet in Diabetics," and "Diet in Epileptics."

Owing to the pressure of time the subjects presented at this stage of the Symposium were not discussed by members from the floor, the time being yielded by unanimous consent to Dr. W. C. Gayler, St. Louis, who, as a guest of the Society, and representing the Post-Graduate Extension Course of the Missouri State Medical Association, gave a very able and interesting lecture on the subject of "The Newer Obstetrics."

The subject of Dr. Gayler's address was later discussed by Dr. Jos. D. James, Springfield, and Dr. Harvey D. Wood, Fayetteville, Ark.

Dr. Wm. Rienhoff, Jr., Baltimore, next gave an able and interesting presentation of the subject of "The Relation of Hyperthyroidism to the Origin of Certain Benign Tumors of the Thyroid Gland," illustrated with lantern slides.

A complete amplification of Dr. Rienhoff's address will, we have been informed, appear in a formal manner under the topic of "Surgery of the Thyroid Gland" in the forthcoming "System of Surgery" to be edited by Dr. Dean Lewis, of Johns Hopkins University, Baltimore, soon to be published.

Dr. Rienhoff's subject was briefly discussed by Dr. H'Doubler, Springfield.

The morning of the second day, in accordance with the program, was devoted exclusively to surgical clinics at the various hospitals in the city.

The afternoon session of the second day, convening at 2 o'clock, was devoted entirely to an able presentation of the subject of "The Present Status of Radium Therapy," illustrated with lantern slides, by Dr. Ellis Fischel, St. Louis, again representing the Post-Graduate Extension Course, of the Missouri State Medical Association.

We regret being unable to publish an abstract of Dr. Fischel's address.

The subject presented by Dr. Fischel was briefly discussed by Dr. Paul F. Cole, Springfield.

A banquet was held in the main dining room of the Colonial Hotel on the evening of Thursday, Oct. 28, to which about one hundred and fifty members and guests sat at table. Dr. A. L. Anderson, Springfield, presiding as toastmaster, introduced the following distinguished guests who addressed the Society: Dr. E. J. Goodwin, Secretary of the State Association, who gave a brief outline of the present status of the proposed program for medical legislation to be submitted to the next legislature prepared by the legislative committee of the State Association, and approved by the executive committee of that body. Dr. Goodwin also touched briefly on some other timely topics of immediate and vital concern to the medical profession of this state.

Dr. W. H. Breuer, St. James, President of the State Association, whom we were both delighted and honored to have had with us, when called on by the toastmaster, responded in his accustomed felicitous and pleasing style in a brief and interesting address wherein he not only urged on those present the continuance of their fealty to the principles and policies of organized medicine, but exhorted them, in a very forceful appeal, to the reconsecration of their hearts and lives to its revered traditions, by holding aloft, —as is his wont, and in his inimitable and seductive manner,—for the emulation of his fellows, the exalted ideals of our ancient and honorable profession.

After the conclusion of his address, Dr. Breuer introduced the principal speaker of the evening, Dr. Jabez N. Jackson, Kansas City, President-Elect of the American Medical Association, who addressed the Society on a subject pertaining to the rationale of the management of shock when complicating certain acute surgical abdominal conditions.

In his address Dr. Jackson, after a brief but comprehensive review of the anatomy and physiology of the organs immediately concerned in the great portal circulation, together with their controlling vegetative nervous system, stressed the vital and important relations existing between these organs and the gastrointestinal tract on the one hand, and the liver on the other, the latter of which organs he very aptly designated as the "great human filter."

He then proceeded, in a very clear and intelligible manner, to show the undoubted value of a fuller and more adequate consideration of this anatomical and physiological complex in its bearing upon the management of a serious yet too often neglected

condition of shock, when complicating acute intestinal obstruction and other acute abdominal conditions demanding surgical relief.

In concluding, Dr. Jackson forcefully pressed home his conclusions by warning his hearers against the hitherto prevalent habit of boldly and sometimes blindly rushing in with hasty attempts at immediate and often radical surgical interference when dealing with patients suffering from such acute surgical conditions with the ever present potential condition of shock without, in every instance, first giving deliberate and intelligent consideration to a careful estimation of the relation of a relatively normal "body fluid balance" to liver function.

We regret our inability at this time to give a fuller, more adequate and intelligible abstract of this masterful address, as it was the unanimous verdict, pronounced from every quarter at its conclusion, that on this occasion Dr. Jackson had given us one of the most memorable addresses ever, in the memory of those present, delivered before this Society in the more than fifty years of its existence.

Before adjournment of the meeting the following officers were elected for the ensuing year: Dr. W. A. Delzell, Springfield, president; Dr. J. H. Wade, Ozark, 1st vice president; Dr. Wilbur Smith, Springfield, 2nd vice president. The other officers, Dr. W. R. Beatie, Springfield, recording secretary; Dr. Lee Cox, Springfield, treasurer; and Dr. Jos. W. Love, Springfield, corresponding secretary, were reelected.

JOSEPH W. LOVE, M.D.,
Corresponding Secretary.

Abstracts of Papers Read at the Meeting

Several Important Conditions Among Children

URBAN J. BUSIEK, M.D.

Several patients were presented illustrating conditions frequently encountered among infants and children.

The first child presented was an apparently healthy boy of 19 months who had never been sick and who gave no indications of any illness. The day before, he had passed a large round worm. The only etiological factor of any importance was the possibility of an infection while on a visit of several weeks to the country where he played considerably in the barn lot. The case was presented to emphasize the fact that intestinal parasites may be present without the time honored symptoms of nose picking, circumoral pallor, groaning during sleep, etc., recognized by the laity as sure signs of worms.

The second demonstration was on the treatment of umbilical and inguinal hernias.

Umbilical hernias are often treated by means of elastic bands bearing a porous rubber pad protruding from which there is a small mound of the same material. This manner of band is too hard to keep on and too likely to keep the defect open. The application of coins or lead wrapped in gauze or cloth and held down by adhesive is too slow a method. Probably the surest and quickest way to cure these hernias is to turn in the umbilicus and fasten a strip of adhesive 1½ to 2 inches in width and of sufficient length to insure permanence over the abdomen at right angles to the rectus muscles. It is left in place as long as it will stay and a new strip applied when it loosens. Two to four months' treatment will cure most umbilical hernias.

The use of the ordinary truss in the treatment of inguinal hernias should be discouraged. Severe excoriations of the skin and sometimes erysipelas result from these appliances. A rope made of 20 to

30 strands of heavy white woolen yarn answers for a truss. It is so applied that the slip knot is directly over the canal. There is no danger from irritation, the yarn is easily washed, and when soiled is easily replaced.

The third demonstration was an athreptic baby 4 months old with chronic purulent middle ear disease. Immediate improvement followed bilateral paracentesis.

In the last few years more and more attention has been brought to bear upon otitis media and mastoiditis as a cause of digestive disorders and malnutrition. Every physician who deals with infants should as a matter of routine examine the ears. He will be surprised at the number of times he finds pathology there. Many times early treatment of an ear condition discovered in the absence of any symptoms ordinarily considered as pointing to ear trouble will prevent serious complications or prolonged illnesses.

Lung Abscess

A. L. ANDERSON, M.D.

The number of patients with lung abscess is on the increase. Due probably to the fact that of recent years there have been more operations on the mouth and throat, especially the extraction of teeth and the removal of tonsils. The prolonged use of ether for tonsillectomy may be partially responsible for the increase. He gave all the conditions that might be etiological factors, also pointed out that abscess of the lung might be caused by aspiration of affected material or by infection through the blood stream.

Single or even multiple abscesses, if confined to one lobe, were more often aspiratory, while abscesses scattered through both lungs were more likely to be blood borne infections. The physical signs vary according to the location. An abscess near the surface might give, when empty, the signs of a cavity. Sometimes fine rales are heard over the lungs surrounding the abscess wall. Most of the patients have fever, which may run from 99 to 108; pulse rate is generally increased. The most characteristic clinical symptom is the raising of large amounts of foul smelling sputum. The X-ray affords the greatest help in the diagnosis.

In about 2 per cent. of the cases, the fusiform bacillus with its associated spirillum was the predominating organism. These respond to treatment with one of the arsphenamines. In the treatment he recommended one of the three procedures: Rest, with postural drainage; artificial pneumothorax; surgical intervention. Patients with open abscesses frequently respond with rest and postural drainage. Artificial pneumothorax in open cases, located deeply in the lungs, compresses the walls of the abscess cavity, and is one of the most valuable aids in the treatment. Closed abscesses and multiple abscesses, involving a single lobe and abscesses near the chest wall respond only to surgical measures.

He showed X-ray pictures of a number of cases of lung abscess and one of a patient 18 years of age, who had pulmonary tuberculosis involving all of the left lung with a large cavity in the upper lobe. This patient, although in bed for four months, had shown no improvement and was growing progressively worse. When first seen by him her temperature was running from 100 to 103, pulse 120 to 160. She was raising a large amount of sputum which contained numerous tubercle bacilli. The right lung was seemingly free. He treated her by using in addition to rest, artificial pneumothorax. The first two treatments he introduced but a small amount of air, 200 cc. into a left plural cavity. This amount was in-

creased every three days until the lung was collapsed. Patient has gained 14 pounds in weight, has no fever, very little cough and no sputum. Her pulse rate is now 80 to 90. The apparatus used by him is the one devised by Dr. J. J. Singer, of St. Louis.

Clinical Features of Auricular Fibrillation

GUY D. CALLAWAY, M.D.

Auricular fibrillation is probably the most common type of pulse irregularity that is seen in heart failure. It has been known to clinicians of different periods under different names. "Delirium cordis," "pulsus arrhythmicus" and "pulsus irregularis perpetuus" were some of the descriptive names applied. It may occur in practically any condition in which the heart muscle is severely damaged; valvular disease, hypertension, arteriosclerosis, rheumatic fever, pneumonia and exophthalmic goitre. In those conditions where there is an acute toxic myocarditis, the fibrillation may be only temporary, but in the rheumatic heart or the heart damaged by valvular disease, the condition tends to become chronic. In such hearts, however, attacks of fibrillation may occur in paroxysms for some time before finally becoming permanent. Mitral stenosis, especially that following rheumatic fever, seems to be the most common predisposing lesion.

The most striking clinical feature is the irregular pulse. It is absolutely irregular in rhythm and in force. This varying strength of the pulse beat and the differences in time between beats may be detected at the wrist or over the apex. Strong pulsations may at one time be followed by strong ones, and at another by weak ones. Two or three very weak beats may occur together or weak pulsations may be separated by a strong one. There is nothing regular about the irregularity. Any sort of combination of irregular ventricular contractions is possible. The rate is usually not absolutely constant, tending to have a slight variation at different countings. In those cases where the rate is rapid, more contractions can be heard at the apex than can be felt at the wrist. Hence the apex rate may outnumber the radial rate a few or many beats. Such a "pulse deficit" should make one think of auricular fibrillation. Likewise, if the arrhythmia tends to become more irregular upon exercise or increase in heart rate, this too is suggestive of fibrillation. Most of the other arrhythmias tend to disappear with an increase in pulse rate.

Keeping in mind the constant and absolutely irregular force and rhythm of the pulse, the "pulse deficit" and the effect of exercise upon the arrhythmia, we should be able to recognize clinically most of our cases of auricular fibrillation. Some of the cases with a slow rate are not easy to recognize and in some instances electrocardiographic tracings may be necessary in order to establish a diagnosis.

Treatment includes the usual recognized measures that are useful in cardiac failure of the degree involved. It is in these cases that digitalis gives its brilliant results in slowing down a fast pulse rate. The drug should be used in quantity sufficient to produce the desired results, the optimum rate varying from 60 to 80 per minute. The necessary care in securing potent preparations and the usual precautions in dosage and administration, are to be exercised. Quinidine may be used in cases of paroxysmal fibrillation to prevent their occurrence, or it may be used to break up a fibrillation recently established. If restoration of normal rhythm occurs, the drug may be used for weeks or months to prevent a recurrence. Quinidine is a protoplasmic

poison and is a depressant to muscle tissue. Its use, therefore, is recommended only in cases that have a fairly strong myocardium. Digitalis, however, is not so toxic to heart muscle and may be continued in maintenance doses for years in persons with established fibrillation, keeping the rate at an optimum and thereby conserving the myocardium.

The Nervous System

FRANCIS B. CAMP, M.D.

Attention was called to the neglect of the nervous system in the routine examination of patients, leading to grave errors in diagnosis. A review of the six tendon reflexes that are present constantly and symmetrical in the normal, and demonstration of a positive Chaddock's wrist sign, was given. A case was presented having been referred to the clinic by a visiting physician as a neurological condition.

The positive subjective findings were: A progressive anesthesia of the right lower extremity. Progressive loss of vision and general weakness developing during the past year in a man over sixty years of age. Positive objective data revealed a general arteriosclerosis, hypertention, and bilateral senile cataracts. The deep and superficial reflexes revealed nothing abnormal. There was impairment of sensations of light touch over the lateral aspect of the right leg from the toes to the knee. Thermal and painful sensations were intact and there were no pathological changes in the cutaneous reflexes. The diagnosis of general arteriosclerosis, with hypertention and vascular changes in the cord was evident.

WOMEN'S AUXILIARY

OFFICERS 1925-1926

President, Mrs. A. B. McGlothlan, St. Joseph.
President-Elect, Mrs. W. M. Bickford, Marshall.
Chairman of Organization, Mrs. Willard Bartlett, St. Louis.

1st Vice President, Mrs. A. W. McAlester, Kansas City.

2nd Vice President, Mrs. Archer O'Reilly, St. Louis.

3rd Vice President, Mrs. M. P. Neal, Columbia.

4th Vice President, Mrs. Wm. Spaulding, Poplar Bluff.

Corresponding Secretary, Mrs. H. S. Conrad, St. Joseph.

Recording Secretary, Mrs. M. A. Hanna, Kansas City.

Treasurer, Mrs. C. T. Ryland, Lexington.

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HENRY COUNTY AUXILIARY

The Women's Auxiliary of the Henry County Medical Society met with Mrs. R. D. Haire, Clinton, Nov. 17, 1926. The following members were present: Mesdames Poague, Haire, Peelor, Woltzen, Strickland and Walker.

Mrs. W. F. Crome gave a very interesting talk on her "Trip to the Land of the Midnight Sun."

The following officers were elected for 1927:

president, Mrs. J. R. Hampton; vice president, Mrs. G. S. Walker; secretary, Mrs. S. W. Woltzen; treasurer, Mrs. Marie Strickland.

Refreshments were served by Mrs. Haire, assisted by her daughter, Mrs. R. K. George. A pleasant time was had by all.

MRS. S. W. WOLTZEN, Secretary.

BOOK REVIEWS

FEEDING, DIET AND THE GENERAL CARE OF CHILDREN.

A book for mothers and trained nurses. By Albert J. Bell, A.B., M.D. Assistant Professor Pediatrics in the Medical Department of the University of Cincinnati, etc. Second revised edition. Illustrated. Philadelphia. F. A. Davis Company. 1924. 290 p. Price \$2.00.

This book is intended for the use of mothers and nurses. It was evidently originally written to answer questions asked by the mothers of the author's patients, as all the usual questions asked are answered.

It is one of the best balanced books of its kind. The emphasis laid on preventive measures is timely, but perhaps more detail as to methods would be useful; for instance, the proper way to give a sun bath is not given. It is a book that can be recommended.

M. J. L.

THERAPEUTICS MATERIA MEDICA AND PHARMACY.

By Sam'l. O. L. Potter, A.M., M.D., M.R.C.P. Lond., Formerly Professor of the Principles and Practice of Medicine in the Cooper Medical College of San Francisco, etc. Fourteen Edition. Revised by R. J. E. Scott, M.A., B.C. L., M.D., New York. Fellow of the New York Academy of Medicine, etc. Philadelphia. P. Blakiston's Son & Co., 1012 Walnut Street.

The fact that Potter's work has run through fourteen editions is in itself evidence that the book fills a useful place in the library of the general practitioner. It contains much useful advice in addition to trustworthy information regarding the properties and uses of drugs. There is a chapter on drugs which may affect the color of the urine, which may produce skin eruptions, affect the color of the feces and which cause a reduction of Fehling's solution in the urine, which should prove to be very useful. There is also a resume of the federal narcotic and prohibition regulations which were in vogue a year or two ago. It is to be regretted that the work has not been brought more up to date; the subject of the use of insulin in diabetes, for example, is dismissed with two short paragraphs, while such drugs as tryparsamide, sulpharsphenamine, stovarsol, and the sodium thiosulphate treatment of arsenical dermatitis are not mentioned. The book contains a number of useful tables and equivalents of weights and measures such as are usually found in works on materia medica.

L. H.

AN INTRODUCTION TO THE STUDY OF X-RAYS AND

RADIIUM. By Hector A. Colwell, M.B. (Lond.), D.P.H. (Oxf.) Director of the Radiological Department, King's College Hospital, and Lecturer in Radiology in King's College Hospital Medical School, University of London, etc. And Cecil P. G. Wakeley, F.R.C.S. (Eng.), F.R.S. (Edin.) Assistant Surgeon, King's College Hospital, etc. Oxford University Press. American Branch, 35 W. 32nd St., New York City. Price \$3.35.

It is clearly the intention of the authors to cover only the elements of X-rays and radium and yet

there is an evident desire to stimulate interest in their subject. The chapters are clear and simple and abound with the romance of the X-ray and radium, their birth and their evolution.

The reader is carried through the early history of the X-ray and brought step by step up to the present development of the modern X-ray apparatus. There are notes upon the variation of the length of the rays, their penetrability, filters and their function, protective materials, photographic and ionization effects, also upon the method of current induction and a brief chapter upon X-ray examination.

The story of radioactivity and the preparation of radium salts is instructive and interesting, as is also the action of the radiation upon normal living tissue.

The last two chapters treat in a concise manner of the atomic theory and the protective methods used in X-ray and radium laboratories.

The book furnishes an excellent means of becoming familiar with the principles of the X-rays and radium. G. V. S.

A MANUAL OF CLINICAL LABORATORY METHODS. By Clyde L. Cummer, Ph.B., M.D., Associate Professor of Clinical Pathology, School of Medicine, Western Reserve University, Cleveland, Ohio. Second edition, thoroughly revised. Lea & Febiger, Philadelphia and New York. 1926. Price \$6.50.

The second edition of this well known book shows some parts that have been entirely rewritten.

The Kolmer methods have been well described, Benedict's method for the determination of uric acid, Shaffer-Hartman method for blood sugar and Meyers and Wardell's method for determination of cholesterol, have been incorporated.

The section on cutaneous reactions and the chapter on basal metabolism are new features.

The Rosenthal test for liver function is described.

As in the original book the first chapter on the examination of blood is very complete, giving the pathological picture and the chemical significance of the various findings. There is an excellent chapter on malaria with some very comprehensive plates.

The regulation methods used in the clinical laboratory are well described. The book will serve as an excellent manual for any one interested in laboratory technique and interpretation. Among the cutaneous reactions described we find the protein sensitization tests, the tuberculin reactions, the Dick test for scarlet fever and the Schick test for diphtheria.

The bacteriological methods described are good, but somewhat meager. R. B. H. G.

PRACTICE OF PHYSIOTHERAPY. By C. M. Sampson, M.D. Formerly of the Physiotherapy Service, Walter Reed U. S. Army General Hospital, Washington, D. C.; Formerly Chief of Physiotherapy Service U. S. Army General Hospital No. 9, Lake-wood, N. J., etc. With 146 Illustrations. St. Louis. The C. V. Mosby Company. 1926. Price \$10.00.

Some books are reviewed with pleasure, others the reviewer feels a prejudice before finishing the preface. This was partly true in the case of this book. The reason is that so much is written and practiced under the head of physiotherapy by persons not fitted by training, that much of the work done under this class is simply fraud. I am so much opposed to the putting of lamps, transformers, X-ray outfits, etc., in the hands of the inexperienced that I at times shudder at the possible results.

Dr. Sampson's book does not come under this class. The chapters are well written and illustrated.

If we could only keep the work done under the head of physiotherapy in the hands of those capable a world of benefit would ensue.

All the methods of therapy, forms, technic, and classifications are clearly explained. Diathermia is given much space. Ultrared and quartz ray therapy are deeply gone into. The chapter on X-rays is incomplete, and I think rightly so.

The Roentgen rays would need a volume alone for a proper understanding of the uses and abuses.

The clinical applications are fully gone into, and the various diseases to be benefited are widely explained.

A small part of the book is devoted to "trouble shooting," general considerations and definitions.

The book is nicely printed on good paper. The illustrations are clear.

For the doctor interested in physiotherapy work the book can be highly recommended. E. H. K.

DISEASES OF THE NEW-BORN. A Monographic Handbook. By John A. Foote, M.D. Professor of Diseases of Children, Georgetown University Medical School. Illustrated. Philadelphia, London and Montreal. J. B. Lippincott Company. Price \$5.00.

This is a small monograph on the new-born by Foote and a number of his associates on the faculty of the medical school. In size it is much larger than the usual textbook discussion and much smaller than such standard monographs as that of Von Reuss or the recent textbook of Grulee. It is profusely illustrated even to the suspicion of padding. Its field of usefulness is for the general practitioner who does obstetrical work rather than for the student or specialist. B. S. V.

RADIOTHERAPY IN RELATION TO GENERAL MEDICINE. By Francis Hernaman-Johnson, M.D. (Aberd.), Radiologist to the French Hospital, London, and to the Margaret Street Hospital for Consumption, Diplomate in Medical Radiology and Electrolgy, University of Cambridge. Oxford University Press, American Branch, 35 W. 32nd St., New York City. Price, \$1.75.

The volume is small but contains much of interest to the user of the X-ray and radium. The physics of radiation upon normal cells is gone into fairly fully. The general nature of disease and the action of radiation is made plain.

Cancer and the treatment of cancer is explained in such a manner that the user of the Roentgen rays who has had a fair grounding in the use of radium and X-rays can follow the author with understanding.

The comparative use of radium and X-ray therapy is shown in one chapter.

Uterine fibroma and the other nonmalignant tumors are explained and a proper technic is given.

Graves' disease and the other diseases of the ductless glands have a chapter devoted to them.

The author is rather favorable to the treatment of the thyroid gland in many cases. The success will depend on the understanding of the disease and the dosage to be given.

Tuberculous diseases have a chapter. The treatment of tuberculous glands is explained. The reviewer can state from personal experience that tuberculous glands, not broken down, will respond immensely to the proper X-ray dosage. Bone tuberculosis is shown not so amenable to the treatment. Early tuberculous infection of the internal organs will often respond to treatment, but the treatment of glands, not broken, will give the best results. If after treatment there should remain small nodules, surgery can easily remove them with successful healing of the wound.

The greatest success in the X-ray treatment is in skin affections. To go into this fully would take too much space, but the author, as well as the reviewer, speaks from experience in these conditions. E. H. K.

EDGAR'S PRACTICE OF OBSTETRICS. By J. Clifton Edgar, Emeritus Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College, etc. Revised by Norris W. Vaux, Clinical Professor of Obstetrics in the Jefferson Medical College, and to the Jefferson Hospital, Philadelphia, etc. Sixth Edition, with 684 illustrations, including 5 colored plates and 38 figures printed in colors. Philadelphia. P. Blakiston's Son & Company. Price \$8.00.

When in 1893 the reviewer went to New York to take a course in pelvimetry and the diagnosis of pregnancy he was advised, because of the large amount of material, to spend a part of his time with Dr. Edgar at Bellevue, and there has never been a regret as to that experience. In taking up this handsome volume with the elaborate study of pelvimetry all the old associations came back to him in review. It is only one of the very satisfying sections of the new work which must appeal to both student and physician.

The classifications which were adopted in the first edition are faithfully developed by Dr. Vaux in the sixth edition.

It is remarkable that radiography which Dr. Edgar mentions only to express his disappointment in results, has now become such a dependable element in obstetric diagnosis.

Prenatal care, complications of pregnancy, the toxæmias are discussed in the light of present day knowledge.

Essentials of endocrinology are fairly presented, as are management of labor, version and Cesarean section (although the prognosis in the latter is rather too rosy and the indications might be more clearly defined in view of the proneness of the average trained physician to operate without the consideration to which the patient is entitled).

Altogether the volume brings one of the old reliable textbooks down to date and is welcomed as a valued addition to current obstetric literature.

The volume is issued with the usual attractive mechanical style of the publisher, although the proof reading has not been done with absolute care.

G. C. M.

OPHTHALMIC NEURO-MYOLOGY. A Study of the Normal and Abnormal Actions of the Ocular Muscles from the Brain Side of the Question. By G. C. Savage, M.D., LL.D., Professor of Ophthalmology in the Medical Department of Vanderbilt University from 1886 to 1911. Second edition. Published by the author, 167 Eighth Ave., North, Nashville, Tenn. 1926. Price \$3.00.

This book, according to the statement of the author, is devoted to the simplification of the explanation of the actions of the extra-ocular muscles. His hypothesis is, briefly, that there are eight brain centers by which the several versions are effected, and one conjugate center which presides over convergence. There is a chapter on ocular rotations, one on the brain centers controlling the ocular muscles, and the balance of the book is given over to a discussion of ametropia, pseudoheterophoria, and compensating heterotropia.

The text includes several excellent plates illustrating the author's conception of the arrangement of the various nerve centers controlling the extra-ocular muscles.

A perusal of the book makes one wish that the author had made more reference to the work of others tending to support his contentions, and also to the literature on the subject. B. L. E.

THE PRACTICE OF MEDICINE. By A. A. Stevens, M.D., Professor of Applied Therapeutics in the University of Pennsylvania. Second Edition, entirely reset. Octavo of 1174 pages. Philadelphia and London. W. B. Saunders Company. 1926. Cloth, \$7.50 net.

To the beginner in medicine, who is groping for the salient facts about the practice of medicine, this second edition of Stevens' Practice of Medicine is to be thoroughly commended. My reasons for making this statement are, that its statements are concise; the relative values of different signs and symptoms are carefully maintained; the statements are so definite that vagueness is avoided; and the discussion of theory is left for other people.

Only one or two typographical errors have been noted. In general the book is well set up and bound. The book is up to date, and gives practically all that is necessary for the general practitioner or the beginner in medicine for his daily work.

On the other hand, if one were to discuss moot questions, such as the treatment of diabetes, one might question Stevens' giving only a ratio of 1:1:2.5 for food values. But as I noted above these are moot questions and should not be given the beginner of medicine to worry about. G. H. H.

THE SURGERY OF GASTRO-DUODENAL ULCERATION. By Charles A. Pannett, B.Sc., M.D. (Lond.), F.R.C.S. (Eng.). Professor of Surgery in the University of London; Surgeon to St. Mary's Hospital. Oxford University Press. American Branch, 35 W. 32nd St., New York City. Price \$3.25.

In this splendidly written monograph on the above subject, the author presents his personal experience and results and his opinions on the etiology and treatment of gastroduodenal ulceration. Finality in the cause and treatment of ulcer has by no means been reached. Opinions of clinicians having wide experience on this subject are freely quoted, and the author gives his own conclusions from his personal experience by way of comparison. The technique of various operations for the surgical treatment of gastric and duodenal ulcer is given as carried out by the author in his clinic.

The problems confronting the surgeon who seeks to treat gastroduodenal ulceration is excellently handled in this monograph and the book can be heartily recommended to any surgeon as a valuable addition to his library. H. S. M.

FRACTURES, THE TREATMENT OF. With notes upon a few common dislocations. By Charles Locke Scudder, A.B., Ph.B., M.D., F.A.C.S., Consulting Surgeon to the Massachusetts General Hospital. Tenth Edition, Revised with 207 Illustrations. Philadelphia and London. W. B. Saunders Company. 1926. Price \$12.00.

The new tenth edition of Scudder's Treatment of Fractures shows many improvements. It is well illustrated which adds very much to its value as a teaching text. The introduction of certain chapters by men especially qualified to write on certain subjects is a definite addition of value.

The operative treatment of fractures is ably discussed. There is probably some ground for criticism of the pronounced display of metal used as fixation appliances.

On the whole the book is excellent and should be accessible to every surgeon who treats fractures.

T. G. O.

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PUBLICATION } T. W. COTTON, M.D., Chairman
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ORIGINAL ARTICLES

ECHINOCOCCUS DISEASE IN MISSOURI

INCORPORATING A REPORT OF A SECOND CASE OF
THE DISEASE IN A MONKEY FROM THE
KANSAS CITY ZOOLOGICAL PARK

EDWARD P. HELLER, M.D.
KANSAS CITY, MO.

A rare condition such as echinococcus disease is worthy of consideration at scattered intervals if for no other reason than to emphasize its rarity. Thus, for instance, a specimen of retroperitoneal sarcoma was brought before a recent pathological conference in Kansas City and, as the records showed, in the clinical investigation a diagnosis of echinococcus disease was adhered to most tenaciously, even in the absence of any real evidence.

Through the kindness of Mr. N. T. Clark I recently became possessed of a monkey of the family *Cercopithecus*, a native of India and a victim of the disease. As it is impractical to bring to a meeting or to preserve in toto the human cadaver with the affected organs in situ, it is rather a novelty to have so characteristic a specimen as this one (Figure 1), with the pathology undisturbed except for the absence of several hundred of the smaller and less firmly attached cysts. This is the second case of the disease which has occurred among the monkeys at the local zoological park. The first case was shown before the Jackson County Medical Society at its meeting on November 23, 1920, and was incorporated in a complete study of the disease, the Alvarenga Prize essay for 1923.¹

HISTORY AND REPORT OF AUTOPSY

Male, Rhesus (*Macacus*) monkey, family *Cercopithecus*, age, about 7 years, a resident of the Swope Park Zoological Park for the past 6 years. He was purchased in New York about two weeks after arrival from Dresden, Germany. He was a native of India. Time spent in Germany is not definitely known.

Family history. This animal was the father of baby monkey which was born in the gardens about the middle of November, 1926.

Social history. While this monkey was a contemporary of the ape which developed



Fig. 1. Echinococcus in monkey at Zoological Gardens, Kansas City.

echinococcus disease and died at the Zoo in 1920, the death of the ape (*Cynocephalus Porcarius*) occurred soon after the arrival of this monkey (*Macacus*), was never in the same cage, nor was it likely that it ate food contaminated by the ape or by other animals. Furthermore, no other animals at the Zoo have developed the disease thus far, and there have been much more intimate contacts with the

original ape than those to which this animal was exposed.

Symptoms. There were none audibly and intelligently expressed, but for the 6 weeks prior to death, swelling of the abdomen was very marked and some dyspnea was noted. He had a very mean disposition and was prone to quarrel with his companions. The attendants

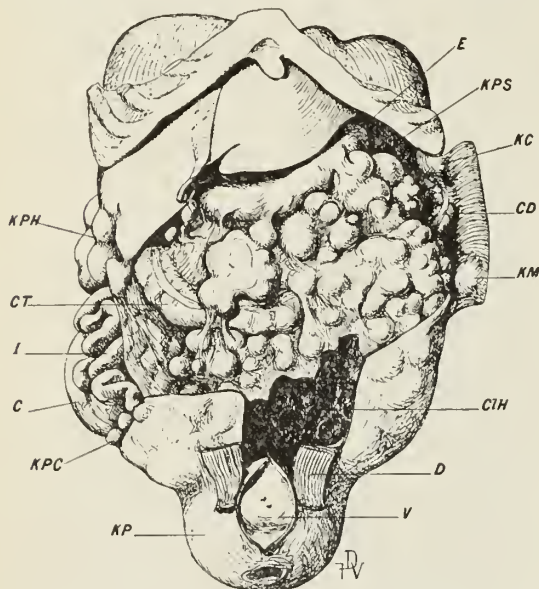


Fig. 2. Multiple hydatid cysts of the abdomen. Fatal many years after the operation which resulted in their dissemination. After Dève.

do not recall any injuries to his abdomen or otherwise.

Signs. These were limited to the marked abdominal swelling, constipation (recent), and dyspnea which was only pronounced during the few days before death on December 19, 1926. Death was induced by chloroform due to the agony the animal was in, and was an act of mercy as can be seen by observing the conditions found on opening the abdomen and chest cavity.

Autopsy. The animal was a fairly well developed monkey with markedly distended abdomen. On incision of the parietes a large number of cysts of all sizes from a pea to a golf ball rolled out. All told, enough cysts to fill a two quart mason jar were thus evacuated from the free peritoneal cavity. All were glistening white in color, and some had attached veil-like vascular tissue, presumably omental (adventitia). There were some small masses of densely matted cyst membrane, and on breaking some of the cysts exuded membrane and smaller (daughter) cysts. Some of the cysts were evidently budding exogenously, or were herniating, and presented 2 or 3 excrescences on one end. The cysts were uni-

versally globular. None were ovo-globular as are the cysts of *cystocercus tenuicollis*, and in none was a single, contained, macroscopic head, or scolex, found.

The remaining abdominal cysts were attached to all the intraperitoneal organs from the diaphragm to the retrovesical pouch. The parent cyst was under and behind the liver, pushing it upward and forward and, as can be seen from the illustration, completely dislocating the gallbladder, cystic and common ducts from their relations under the liver. In order not to ruin the specimen, no effort has been made to explore this cyst, but grossly it is about the size of an ordinary grape fruit. The gallbladder tip remains attached to liver edge, and there does not appear to be any impediment to emptying this organ. The first and second portions of the duodenum are pushed toward the midline.

The right lung seems to have escaped the disease, but a cyst the size of a large marble occupies the left lower lobe, and presents downward and outward on the diaphragmatic surface.

The diagnosis of echinococcus disease is made on the gross appearance, and the character of the cyst fluid. That it was primary in the liver seems certain. The echinococcosis of the abdomen was secondary and due to rupture of the parent cyst at some time, or possibly due to herniation or budding. The cyst of the lung was probably secondary via the blood.

Since reporting the case in 1920, I have collected considerable data from all over the world. In the past three years I have been accumulating case reports from the State of Missouri. I herewith tabulate the cases occurring in the human subject in this state from 1877 to date:

YEAR	CASE
1877.	D. V. Dean, St. Louis. St. Louis Med. and Surgical Jour. 14 :420. A negress, native of St. Louis. Multilocular echinococcus of the liver. (Postmortem in 1869).
1877.	D. V. Dean, St. Louis. St. Louis Med. and Surg. Jour. 14 :420. A male Bavarian, age 39. Multilocular of the liver.
1881.	S. Pollak, St. Louis. St. Louis. Med. and Surg. Jour. 41 :492. A female aged 26 with involvement of the bladder.
1882.	A. C. Bernays, St. Louis. Amer. Jour. Med. Sci. 84 :475. Adult Englishman (from Honolulu), at St. Louis. Echinococcus expectorated from lungs.
1882.	A. C. Bernays, St. Louis. Am. Jour. Med. Sci. 84 :475. An adult, German female, at St. Louis. Cyst of the liver evacuated into the bowel.
1884.	N. B. Carson, St. Louis. St. Louis Courier of Med. 12 :455. An adult male at St. Louis. Hydatid cyst of the liver.
1892.	H. H. Mudd. Amer. Jour. Med. Sc., October, p. 412-422. A 12 year old girl at St. Louis. Cyst of the brain. (A remarkable surgical case according to report.)
1896.	A. H. Cordier, Kansas City. Langsdale's Lancet, Kansas City, Mo. 1 :130. A sterile cyst of the liver in a woman 46 years old; at Kansas City.
1907.	L. B. Ashton. Illinois Med. Jour. 12 :28. A male, age 30, native (?) of Missouri. Cysts of the peritoneum.
1917.	A. O. Fisher, St. Louis. Barnes Hospital, No. 4075, St. Louis. A Greek male, age 30 years. Cysts of kidney and bladder. Treated by nephrostomy. (I am in-

debted to Dr. G. H. Copher, of St. Louis, for this record and for the notes on Dr. Graham's case given below.)

1922. A. J. Welsh, Kansas City. Trans. Jackson County Med. Society. St. Joseph's Hospital, Kansas City, Mo. Male, Greek, age 40. Had been 24 years in this country. One cyst of the right lobe of the liver and one in the left lobe. Treated by operation, two stages.

1923. W. A. Shelton, Kansas City, Mo. Personal communication. Male, Greek, age 29. Single cyst of the liver. Treated by operation.

1924. Logan Clendenning, Kansas City, Mo. Personal communication. A Greek woman, age 24. Had been in the U. S. 2 years. Large cyst of the right lobe of the liver occupying the upper abdomen. Operated on at the Trinity Lutheran Hospital by Dr. John Outland.

1924. E. A. Graham, Barnes Hospital No. 19503, St. Louis, Mo. An English man aged 40. Echinococcus disease of the liver and lung. Treated by marsupialization of the liver cyst, and thoracostomy with rib resection for cyst of the lung.

Dr. Copher stated in his communication to me that he knew of a case that was under the care of Dr. C. E. Burford, of St. Louis. He also stated that he thought some cases had been treated at the St. Louis City Hospital. Under date of November 20, 1926, I have the information from Dr. E. A. Scharff, Superintendent of that institution, to the effect that they "have no record of any echinococcus disease."

Dr. Louis Rassieur, St. Louis, in a personal communication says: "We have had at St. Mary's Infirmary, St. Louis, several cases during the past 10 years." (1914-1924). Efforts to get case records have been unavailing in this instance and in numerous others in St. Louis and Kansas City. In July, 1925, Dr. James Stewart, Secretary of our State Board of Health, advised me that no record can be found of incidence of echinococcus disease since 1921, at which time the state began recording the incidence of disease. Miss Margaret Crowe, Statistician for the Kansas City Hospital and Health Board, under date of May 21, 1925, gives the following records of death due to the disease in this city: in 1912, four; in 1923, one.

A personal communication from Dr. G. L. Noyes, Dean of the Medical School of the University of Missouri, under date of June 21, 1926, advises that their hospital records fail to reveal "any case recorded as echinococcus disease."

Dr. H. K. Wallace, St. Joseph, has very kindly looked up the records at the Sisters' Hospital and the Missouri Methodist Hospital, and insofar as the records are available, could find no incidence of the disease.

I have personally gone over the records at the Kansas City General Hospital and unless there has been a case within the past year, no record of the disease is filed.

William Osler² states that Dean of St. Louis "writes that a considerable proportion of the hogs slaughtered in St. Louis are infested." In October, 1921, in reply to my inquiry as to the

incidence of the disease in animals passing through Kansas City, I had the following information from R. P. Steddom, Chief of the Meat Inspection Division, Bureau of Animal Industry; Department of Agriculture, Washington, D. C.: "... The Washington records do not show separate data covering echinococcus disease found in the meat inspection service. Organs or parts of carcasses so infested are condemned and recorded with other parasitic conditions." So that our only authentic record for Kansas City is found in the statement by Stiles that at one abattoir infection in hogs was reported at 1 per cent. (1904).

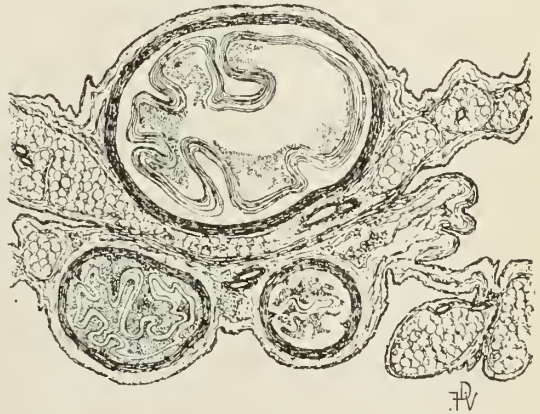


Fig. 2a. Section through cysts of omentum which are undergoing spontaneous involution.

To recapitulate, the number of recorded cases of echinococcus disease in man in the State of Missouri over a period from 1877 to 1927, 50 years, is 15. Making allowances for failure to find old records and for failure to record cases operated on or seen at autopsy, and including the 5 deaths reported in Kansas City, the number of authentic cases in Missouri is probably in the neighborhood of 30. The incidence of the disease in the lower animals is doubtless much higher. In view of the fact that in 5000 autopsies at the Philadelphia Zoological Park in a recent 15-year period, no cases of the disease were found in monkeys (personal communication from Dr. Fred Weidman, January 3, 1921), the discovery of this second case at the local Zoo in Swope Park is most interesting.

I am including in this report a photograph of my most recent specimen, and for purposes of comparison, an illustration from one of Dévé's articles on the disease which he has kindly permitted me to use. It will be noted that there is a marked similarity between the two cases.

707 Rialto Bldg.

1. Internat. Clin., 4: Series 33, December, 1923.
2. Amer. Jour. Med. Sc., 84: October, 1882.

POSTERIOR PITUITARY EXTRACT (OBSTETRICAL)*

W. C. GAYLER, M.D.

ST. LOUIS

Never in human history has the use of a new remedial agent spread with such rapidity as did posterior pituitary extract in 1909. This was partly due to modern methods of news dissemination but principally to the surprise and delight of the obstetricians with this new discovery. I well remember my own impressions after I had cautiously used it on three or four patients. (I have never given more than four minims at one injection.) I was convinced, and most obstetricians at that time were convinced, that we stood in the presence of the greatest revolution that had taken place in our work since the introduction of the obstetrical forceps by Chamberlain. Here was a wonderful oxytocic, a perfectly harmless agent that speeds up labor in a reliable manner. Our attitude toward obstetrics changed. No more twenty four hour deliveries. No more loss of sleep. Everything was to be done rapidly, efficiently and without confusion.

The reaction also came with great suddenness. Premature detachment of the placenta, cerebral hemorrhage, injuries to soft parts, babies dead from compression and, possibly, ruptured uteri were some of the results of the wild spree that followed the introduction of posterior pituitary extract in 1909. About 1914 the stampede in the other direction started and this stampede continues more or less active throughout the world today.

Before we investigate the present day attitude toward posterior pituitary extract, let us examine the remedy itself. The posterior glands of cattle are used, because they are larger and more easily obtainable. The glands of sheep, hogs, dogs and cats are slightly more active. The active principle or principles (there are supposed to be three) have not yet been found. Therefore, accurate standardization is at present impossible. A tremendous amount of work has been done, however, and physiological standardization has been accomplished. While this is far from perfect it must satisfy us for the present.

A small strip of the uterus of a virgin pig is immersed in Locke solution, kept at the proper temperature and supplied with oxygen. When posterior pituitary extract is added to the solution the uterine muscle fibres contract. The promptness with which it responds to the addition of the posterior pituitary extracts sup-

plies the basis for all the standardization we have at present. As the uteri of different pigs do not respond in the same degree, and as the response varies with the time of the year, it can readily be seen that the method is far from perfect. Even if we had perfect standardization and an isolated active principle, we would still have the individual variations of the patients to take into consideration.

PRESENT DAY ATTITUDE

In France there is great divergence of opinion in regard to the use of posterior pituitary extract. Many men use it freely in all stages and admit it. In Germany its use is also rather common but great caution is employed and its use, before dilatation is complete, is rare. In England we observe an even more conservative attitude. As a rule, only very small doses are used and then only in the presence of complete dilatation. We here have a repetition of the radical French, the more conservative German and the extremely conservative English, as they showed themselves in the use of the obstetrical forceps more than a hundred years ago. The French had long forceps similar to the traction forceps of today. The Germans had a forceps similar in length to the one now almost universally used, while the conservative English had an unbelievably small and short forceps.

The American attitude toward posterior pituitary extract is probably the most interesting of all. Williams, in his textbook, says, "to use it before dilatation is complete is reprehensible," and "the claims of many manufacturers are reprehensible." Rucker and Haskell say that it never produces normal pains and never does the intra-uterine pressure return to normal (during its action); therefore, it should never be used. No matter how small the dose, if there is any reaction it is wrong and should be avoided. DeLee says it should never be used before delivery, excepting in cases of abruptio placenta. As this is a rare complication and is very rarely diagnosed, he practically says never use it. At a meeting of the American Society of Obstetricians and Gynecologists, one of the speakers said, "the use of posterior pituitary extract before the birth of a child is criminal." The surprising thing is that in the discussion that followed nobody objected to the statement.

In St. Louis the situation is about as follows: Teachers and consultants continually shout that the stuff should rarely or never be used. They, however use large quantities in their own private work.

Edgar, of New York, was probably the first

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American who called attention (in 1914) to the possible danger from the incautious use of posterior pituitary extract. Strangely enough, he now seems to be the first one to start the parade in the opposite direction. His new textbook, just off the press, admits that posterior pituitary extract may have a useful place in obstetrics. His admission is so guarded and hedged about with warnings, however, that a man who knew nothing of posterior pituitary extract would hesitate to use it after reading his article.

It would seem, therefore, that in America the extract is used very freely, probably more freely in proportion to population than in any other part of the world. It would also seem that the so called leaders of the profession are using it generously while attempting to discourage its use by the ordinary practitioner.

This superior attitude is absolutely wrong. The great mass of physicians are familiar with the various dangers that attend the use of posterior pituitary extract and they must be permitted to rely upon their own judgment. The man who occasionally finds himself faced with obstetrical complications without the possibility of calling for help is a man to be respected. He must not be told that we have a valuable therapeutic agent that is too complicated and dangerous for him to use.

I, personally, use posterior pituitary extract in every stage of labor, excepting after the birth of the child. When a woman is not quite sure whether she is in labor or not I give two minims. If she responds she is in labor. If she does not respond she is probably not in labor.

When inducing labor with the castor oil-quinine method, it is sometimes possible to convert what appear to be castor oil pains into labor pains by two minims of posterior pituitary extract. When a medium sized bag has been introduced to induce labor, it may be expelled without causing contractions. Here a small dose is of great value. Rarely, but still at times, its use is justified in the dilating stage. When dilatation is complete its use is exceedingly common and it is right that it should be so. Together with ether, gas or chloroform, it induces a wonderful, rapid and almost painless delivery.

Wall Building

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OPEN AIR SCHOOL IN THE PREVENTION OF DISEASE*

GEORGE H. HOXIE, M.D.

KANSAS CITY, MO.

Open air schools were first established in Kansas City in 1914 at the Karnes School. The establishment was brought about through Dr. E. W. Shaufler, who developed the local anti-tuberculosis society, and procured the help of philanthropic friends to build the necessary structures and provide the necessary equipment for the new venture. The first room proved so successful that in a few months a second room was added at the Karnes, and the next fall (1915) rooms were put in at the Humboldt and McCoy Schools. At the latter place Dr. Harry A. Marsh became the physician and became also a devoted supporter of the system. Next came a school for the colored children over at the old Lincoln School, which is now called the W. W. Yates School. To this work negro physicians contributed their time gladly and unselfishly. Among them I would mention Dr. T. C. Brown and his chief, Dr. Unthank. Later on Dr. Maddox has also rendered excellent service. In 1920 there were 7 rooms with 210 pupils. There are at present 16 rooms in 13 different schools with an enrollment of 391 whites and 60 colored pupils, a total of 451.

These schools are under the direct management of the director of the Junior Red Cross, Mr. George Melcher, assistant superintendent of schools. The money for the purchase of food and supplies, and for the wages of the cooks and nurses comes from the community chest of the city through the Senior Red Cross and from the school children of the city through the Junior Red Cross.

The medical service has been voluntary. But conditions are changing to such an extent that I favor the employment of one or more physicians on a part time basis.

GENERAL SCHEME OF TREATMENT

Not more than thirty pupils are admitted to

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any one room or teacher. Preferably the pupils are given movable seats in order that there may be sufficient air space between pupils, and space for the use of the cots when the sleeping time comes. In some of the schools there is room enough to have the rest room in a different place than in the school room. In those rooms it is not so important for the seats to be movable. But in many of the schools only the one room can be used for both the sleeping and the studying.

The windows are preferably hinged in order that they may be opened at different angles, according to the wind or the weather. It is preferred to have warm floors—that is, the floors of the rooms should not be granitoid or over the bare earth but rather over heated rooms. With a heated floor it has been found unnecessary to turn heat on in the rooms except possibly in the coldest days of the year. The windows are supposed to be opened at all times, but drafts are avoided by opening the windows one side or the other according to the direction of the wind.

In the middle of the forenoon and in the middle of the afternoon the children are sent to the lunch room and given a lunch consisting largely of milk with a vegetable or coarse bread stuff. We find that the thing lacking in the diet of these children is usually milk and coarse vegetables; therefore, we aim to supply these primarily in our diets. After the lunch period these children are put on their cots, which are familiar army cots, and covered with blankets.

In the best conducted rooms the children lie down quietly without any attention. (Some teachers think it necessary to read to them, but for the imaginative child the reading prevents absolute rest and it is therefore not to be recommended.) When conditions are most favorable most of the children will drop off to sleep. The rest period lasts thirty minutes in the forenoon and one hour in the afternoon.

No gymnastics are allowed these pupils unless by special direction of the medical advisor. In general they are warned against violent exercise.

Baths are given daily, usually the first thing in the morning. That means usually before the general assembling of the school. In the newer buildings the bath rooms are warm and the showers excellent so that the children enjoy the bath period.

Not all grades are taken in any one room. Usually the teachers are asked to cover three grades each. Thus we have in the larger schools two open air rooms covering all the grades of the school. The recitations are, of course, more informal than in the regular rooms and the instruction is much more individualized.

During the colder season of the year the pupils are provided with Eskimo suits and boots so that they do not become cold. An interesting test for this warmth of the children is the feeling of their hands and noses. In most of the schools we find that the hands and faces of the children are as warm as those in the regular rooms.

A nurse takes the temperatures of the children at least twice a week, and where the children run temperatures, every day. The weight is taken weekly. Both the nurse and the teacher visit the homes of the pupils frequently enough to keep in touch with the home conditions and advise the parents about the best methods of improving the health of the children.

SYSTEM OF BATHS

It became evident at the very beginning of our experience with the open air schools that some system of baths would be essential. The skin of the children in the parts of the city where we started the work was not well cared for, to say the least. But most of the schools in those days were not provided with hot water and proper bath-rooms. Consequently, it was necessary to use what we had and the cold shower was the result. We began the use of the cold shower on these children with considerable fear and trembling, but the result proved that our fears were needless; and the baths were, instead of a harm, a decided benefit. We found that not only did it clean the skin and give the children a pride in cleanliness which showed itself in better cared for clothing, but it also stimulated the skin and through the skin the nervous and mental condition of the children so that the work in the school room was better done.

Theoretically, one would hesitate before subjecting patients suffering from tuberculosis to cold baths, but the experience of 1859-60 in Germany where the cold douches were tried out in the woods proved that they were of benefit in selected cases, even with the moderately advanced cases that were being treated at that time. When, however, we remember that the conditions which we are handling in the open air rooms are rarely pulmonary tuberculosis, but usually tuberculosis of the glandular type and that incipient, it is easily recognized that the cold water shower does good rather than evil. We have made it a sort of shibboleth in the open air rooms because we have found that unless we put through a complete regimen we could not get the loyal observance of our regulations from parents and pupil. Up to date the only pupils for whom I think it is dangerous to prescribe the cold shower are those afflicted with some type of kidney or liver dis-

ease. Consequently, we are not admitting those groups of pupils to the open air rooms.

Now that the bath-rooms in the newer schools are well heated, well kept, and clean there seems to be no real objection to giving cold shower baths to the children attending the open air rooms. In fact, I think it is decidedly advantageous for neurocirculatory asthenia and similar neuroses of the circulatory system. For I find that where the open air rooms are well conducted, where the baths are well given, there the children have warm hands, warm noses, warm feet, where we would expect cold extremities because of the coldness of the air in which they are sitting and working. In other words, when I find cold hands and cold feet I feel that there is a lack of observance of the details of our procedure rather than that the cold baths have been detrimental to those children. In this respect much depends upon the teacher, because if she is a lover of cold air and cold water the children are led to love it. On the contrary, if she hates it they too will hate it and they will try and skip the procedure.

TYPES OF CHILDREN ACCEPTED

In the open air schools we find it wise to take care of the following groups of children:

1. The contacts with tuberculous patients.
2. Those infected with tuberculosis, either glandular or pneumonic.
3. The cardiac cases.
4. Undernourished children where the undernourishment can be corrected by the regimen of the open air schools.

On the other hand we find it unwise to put into the open air room children afflicted with kidney disease, or troubles that are made worse by changeable temperature and exposure to colds. We do admit cases of rheumatism where the acute attack has gone by and the parents are willing to have the infected tonsils and adenoids cleaned up and will abide by the general principles of treatment on the cardiac basis.

TUBERCULOSIS

As might be expected we find pathognomonic signs of pulmonary tuberculosis developing in boys and girls only just below puberty, that is from eleven to twelve years of age. This means that if we are to protect boys and girls from such a disease as tuberculosis we must get our work in by the eighth or ninth year and not wait until the signs of the disease begin to show themselves in the tenth, eleventh and twelfth years.

The experience of the open air school rooms shows what a mistake it has been to heat our school rooms with sterilized air. Our experience would lead me to believe that the best thing that could be done would be to return as

much as possible to the open window method of ventilating school rooms. And also to return to heating at a lower degree than is usual in our present rooms where the air is introduced under pressure. My observation makes me wonder not that so many become ill with colds and similar disorders during the school term, but rather that so few become sick.

SIGNS AND SYMPTOMS OF TUBERCULOSIS IN CHILDHOOD

Probably the greatest difficulty experienced by the examiners for the open air schools is to determine the presence or absence of tuberculosis among school children. The children referred to us are usually referred on account of either a daily temperature or a loss of weight (or failure to gain weight). Either one of these two symptoms could be produced by other things than tuberculosis. For example, we find that inflammatory conditions of the upper respiratory tract frequently produce a low grade fever; then there are frequently conditions in the abdomen that seem to produce a daily fever and a malnutrition. Whether these are always tuberculous is a question open for discussion.

Each new examiner seems to think that all he has to do in order to make a diagnosis is to have an X-ray of the chest made and that this automatically will answer the question. Most of us who have been some years in the work have found that this is not true,—that in fact the X-ray rarely gives us the answer to the question of the presence or absence of tuberculosis in childhood. The reason for this is that tuberculosis of the lungs is ordinarily a metastatic or secondary disease and occurs only after the system has been saturated with the toxins of tuberculosis. Or we might put the matter otherwise and say that primary tuberculosis or the tuberculosis of childhood is a disease of the glands rather than a disease of parenchymatous tissue.

In other words, primary tuberculosis is a disease entering the body usually through the upper respiratory tract and invading first of all the glands from the tonsils and postnasal spaces down to the mediastinum. It is only when these glands have become saturated and the system sensitized to the toxins of tuberculosis that we get the next step, namely, the breaking through of the glandular guards and the invasion of the parenchyma of the lungs and other susceptible tissues.

A second and less frequent form of invasion is through the intestinal mucosa. According to Behring, this may occur in the first two years of life rather easily through the food supply. It may also occur from the inhalation of tubercle bacilli, this material being afterward swal-

lowed and thus allowed to invade the intestinal mucosa. The infected material may then reach the mesenteric glands. This invasion, called in older days *tabes mesenterica*, is coming to be more frequently recognized than it used to be, and surgeons who open the abdomen in children and find the mesenteric glands like lima beans are beginning to think of them as tuberculous in nature.

If we admit these two hypotheses then we look for tuberculosis among the school children first, in the glands of the throat, neck and mediastinum; second, in the glands of the abdomen or mesentery. Sometimes the former, that is those of the neck, are palpable and thus can be studied easily. Frequently the cervical glands are not palpable and the only evidence we have then of mediastinal trouble is the sound of the whispered voice in the form of the sign of d'Espine, or similar tests. The X-ray helps in this condition to the extent of showing increased hilus shadows, a finding which is now being interpreted by tuberculosis experts as hilus tuberculosis.

Of the other group, that is mesenteric tuberculosis, the evidence is mostly in the pot-belly, the interference with indigestion, the lassitude, with fever, and other evidences of toxemia. It is hard to distinguish this group of cases from the more frequent ones due to bad diet and bad habits of life.

For it is astounding to learn what these children are being fed at home. Apparently they are fed on the easiest procurable food rather than the best suited ones. If it were not therefore for the feeding done in the open air schools these undernourished children would not be able to put up a good fight against any such formidable invader as tuberculosis. Then again such children are allowed to go to the movies, to sit up late at night and do other things that exhaust the child's vitality and keep the nervous system on a tension. Here again the open air school steps in and provides arbitrary rest periods during the day in order to compensate for the lack of rest at home, and for the energy expended in other ways.

To return to the question of diagnosis, we feel justified then in making a tentative diagnosis of tuberculosis in the case of children who come in with fever, with evidence of fatigue, with loss of weight or failure to gain weight, and who show either an enlargement of the glands of the neck or mediastinum, or an enlargement of the glands of the abdomen, especially of the mesentery. In the former group we advocate the removal of infected tonsils and adenoids as preliminary to successful open air treatment. In the latter group we find that the important thing is the regulation of the diet,

exercises and posture, and seeing to it that the abdominal muscles are taken care of

TERMINOLOGY

Considerable confusion has arisen in our work in connection with outside physicians because of the use of different meanings to our terminology. Thus, some physicians mark up a case as "active" when they mean that the sputum contains tubercle bacilli; other physicians mark up a case as "active" when they find evidence of positive illness of a progressive type, not necessarily in the lungs. A third group would diagnose active tuberculosis only in those cases where they could find signs and symptoms pointing to progressive pulmonary tuberculosis. This has caused considerable confusion to the teachers and school authorities, because some doctors have told them that cases of active tuberculosis should not be left in the schools. I suppose those who made this statement meant that cases of open, active pulmonary tuberculosis were the ones to be taken out of the schools. As we have already seen, such cases are extremely rare below the age of puberty. "Active" cases in the youngsters that we have to deal with are mostly disease of the glandular system or bones or other tissues, and they are rarely contagious.

Lately the term "juvenile tuberculosis" has come to be used more frequently. As we try to interpret it, it means what I have been calling primary tuberculosis or tuberculosis of childhood. It means a tuberculosis of the glands or similar tissues, and not of the parenchymatous tissues.

CARDIAC CASES

It is surprising to note the fewness of the cardiac cases in the schools. It makes me question whether the new crusade for the care and prevention of cardiac disease has as much real ground for its development as the propaganda would indicate. However, we found that cases of cardiac trouble such as follow acute rheumatic fever are very greatly benefited by the regimen of the open air room, and we admit to the open air room all cardiac cases so long as there is space for them. They come, therefore, second in importance to tuberculosis. Usually there are only three or four of such cases in each room. We note that after two or three years of the open air regimen the heart becomes definitely stronger or better for the experience.

MALNUTRITION

Our observation has been that a great number of the underweight children (malnutrition cases) have as a cause improper home diet and care. There is another large group of under-

weight children with whom the cause seems to be focal infection, especially that of the upper respiratory tract.

The experience of the Cattaraugus County investigation was that only three per cent. of the ten per cent. underweight children were tuberculous. Our observations are similar,—we do not expect to find most of the ten per cent. underweight children tuberculous. In fact, some of the rather full weighted and blooming children show signs of tuberculosis on thorough examination.

Our experience would justify us in putting into the open air room such undernourished children as can be improved by education of the family by nurse and teacher, by removal of the tonsils and adenoids, and by the general regulation of the daily life.

It has often been rather difficult to determine whether a given case was due to malnutrition or to tuberculosis. Consequently, many of our examiners have marked children up originally as cases of malnutrition and later have had to change that to suspected tuberculosis. But the results show that no case of underweight person has developed tuberculosis in the open air rooms.

RESULTS

Usually the statistics of the open air schools have been studied from the academic standpoint as to whether the pupils have obtained the normal amount of mental training while in these special rooms. The question was answered within the first three or four years of the existence of these schools, and answered in the affirmative. That is, the pupils under this ungraded type of instruction with plenty of fresh air, with rest, and with the extra meals, not only kept up with their grades in the regular room but even showed an improvement on them.

For several years the statistics of these schools were studied from the standpoint of gain in weight. (That was during the era of the movement against undernourishment and malnutrition, and a movement which we now recognize as being due to the setting up of false standards of growth and weight.) It was found that the gain in all the schools was sufficiently great to justify the expenditure of time and money that was being made by the charitable organizations of the city for this purpose. Thus, in the academic year ending June, 1924, we find the following notations: There were present in the white schools, 283 students (152 girls, 131 boys). Of these 224 were present 100 days or more, and 59 were present less than 100 days. Physical improvement is noted in those present more than 100 days 210 times, that is boys 93, girls 117. In the groups which

attended less than 100 days the total of cases of improvement was 54 (boys 24, girls 30). And the total of unimprovement was 19.

The academic improvement ran along very similar lines. In fact, the lines seem to be parallel. Thus, we find a total of 93 boys and 117 girls attending more than 100 days; and among these academic improvement is noted in 87 boys, 117 girls; leaving unimprovement to be noted only in 6 cases. Among the group which attended less than 100 days the figures are boys 29, girls 20. Improvement was noted in boys 24, girls 18.

In the same year in the colored schools there were present more than 100 days 28 girls, 20 boys. Among these improvement was noted in 20 boys, 28 girls; no failures recorded. In the group which attended less than 100 days there were 4 boys, 5 girls; and improvement was noted even in that group.

When we look at the subject from the standpoint of a physician the first question that naturally occurs to us is, does the introduction of cases of tuberculosis into the open air room produce tuberculosis, or tend to spread the disease among the others? To answer that question we have only to look at our records, where we find that in all these years practically no case has shown a breaking down after entering the open air room. In fact, we have three or four instances of the contrary; where pupils have been examined and ordered sent to a sanatorium, and then put temporarily in the open air schools. Before the sanatorium was ready for their reception such an improvement had taken place that it was no longer necessary to send these pupils to Mt. Vernon.

I have examined the records of two pupils where there seemed to be a lack of improvement, but it is difficult to ascertain from the records whether the trouble is physical or social. I would conclude from my study of these records and my observations during these years that there is little or no chance of contagion in these schools, and that no pupil as far as we know has become worse by attending them. On the contrary many have become better.

CONCLUSION

We conclude that in community hygiene there is a place for the open air school in caring for the contacts with active tuberculosis; in caring for the children who have become infected with tuberculosis but who have not yet developed the disease. That even in case of glandular tuberculosis improvement takes place under this regimen. We find it worth while also in cardiac cases and in malnutrition due to focal infection and bad care.

OBSCURE CASES OF WHOOPING COUGH PNEUMONIA

CALDWELL B. SUMMERS, M.D.

KANSAS CITY, MO.

In the past year three cases of whooping cough pneumonia in infants under one year have come under my care which gave no history of whooping cough at the time but which were diagnosed as such only after they had received intramuscular ether injections and the character of the cough noted after improvement of their condition. These infants were critically ill with what was thought to be bronchopneumonia complicating an ordinary head cold and bronchitis. The history obtained from the parents was that of a beginning coryza and cough a week or ten days before, which became progressively worse regardless of treatment. There was no history of choking spells or vomiting after the cough. The coughing, however, came in spells, worse during the night.

Having used ether injections successfully in whooping cough pneumonia cases, it was thought that they might be of possible benefit in bronchopneumonia of other types. Ether, as we know, is one of the most energetic stimulants to the respiratory and circulatory systems. For these reasons it was given to these three infants and the true nature of the pneumonia discovered. We know that with infants, the beginning of whooping cough is rather insidious, at first a head cold, red throat and cough with very slight if any temperature. These symptoms may last a week or ten days or even two weeks before the spasmodic cough develops so that a positive diagnosis of whooping cough can be made. In infants the whoop is very often entirely absent and the vomiting of food after coughing comes rather late in the disease. It is for this reason and because of having seen these three cases that I am of the opinion that many infants develop a bronchopneumonia and succumb without a diagnosis of whooping cough having been made. As an illustration of the idea of which I wish to convey, I will give in detail the following case:

REPORT OF CASE

An infant six and one half months old was seen at the home on the night of June 1, 1926. The history obtained from the mother and grandmother was that the illness started as a severe cold nine days before. There was vomiting, diarrhea and nasal obstruction. Soon after this the infant began to cough, rather mild in character and not periodic or spasmodic. This infant was entirely breast fed since birth, receiving

no other food. Three days previous to my seeing the infant it had had two convulsive seizures followed by stupor. It could be aroused to nurse at intervals but would again lapse into a semiconscious state. Twenty four hours before my being called, it could not be aroused and they were unable to give it nourishment of any kind. The mother said their family doctor, who had been attending the infant, had diagnosed the case tuberculous meningitis and gave them no hope for recovery.

Examination showed a well nourished girl infant lying on her right side, the head retracted backward in a position as seen in cases of epidemic meningitis. Temperature was 101. Kernig's sign was positive. Breathing was slow and very irregular, Cheyne-Stokes type. The face and lips were cyanotic, the eyes half open with a vacant stare. On being handled the infant cried as if in much pain, but made no resistance to the examination. The ear drums were negative, throat slightly red, pupils equal but reacted very sluggishly to light. Heart action weak and the heart sounds of poor quality. No murmurs were heard. Throughout the chest, both front and back, were fine, moist rales, with areas of bronchial breathing. The abdomen was flat and soft, the skin dry and rough. No tenderness or muscle spasm. The case presented a very puzzling picture.

Consent to take the infant to the hospital was refused as I gave the mother no hope for the infant's recovery. The next morning a spinal puncture was done, expecting to find something on which to make a diagnosis of the neurological findings, but the fluid was clear and not under increased pressure. Laboratory examination of the fluid was negative. However, while the puncture was being done the infant had a paroxysm of coughing, very characteristic of pertussis. With that positive evidence of pertussis, 4 cc. of ether was injected intramuscularly into the gluteal muscles. In the afternoon the condition was unchanged except that the breathing was easier. The next day, however, there was a noticeable improvement. Again 4 cc. of ether was injected with a noticeable improvement the following day. Two days later the drowsiness had practically disappeared and the infant was taking fluids eagerly and breast milk every three hours. Another injection of ether was given but this time only 2 cc. instead of 4 cc. previously administered. The rigidity of the neck was unchanged. It was not until the sixth day after the first ether injection that the infant began to cough spasmodically of typical pertussis. Two subsequent injections of ether were given at two days intervals with a rapid improvement in the cough and the infant's general condition. Not until the tenth day did the rigidity of the neck disappear. On the fourteenth day the infant was discharged from my care, fully recovered. This infant has been seen on several occasions since and is entirely well and progressing normally.

In conclusion, may I emphasize the importance of obtaining a very careful history as to the character of the cough and also as to a history of exposure to whooping cough in all cases in infants with a bronchopneumonia.

PRESENT STATUS OF KNOWLEDGE OF NEUROTIC DISORDERS

LELAND B. ALFORD, M.D.

ST. LOUIS

It has been said that probably half the complaints which patients carry to their physicians are of neurotic nature. Whether this estimate be correct or not, it is certainly true that upon closer analysis more and more obscure symptoms are being found to be neurotic. And, aside from neurotic disturbances, psychic mechanisms are now conceded to be important in such social problems as criminality, childhood delinquency, strikes, vagabondage and poverty. In view of these facts, the newer conceptions along these lines may prove of general interest.

The clinical entities with which we have to deal may be divided into, (1) the neuroses, (2) the personality defects and (3) the psychoses, or insanities. Between these groups dividing lines are indistinct and there is great divergence of opinion as to where they are properly to be drawn. Until our knowledge is more complete final decisions cannot be made.

In considering conceptions of etiology, the psychogenic may be first taken up; and of these Freud's ideas, commonly called psychoanalysis, easily merit first mention. They are now widely accepted, at least in large part.

PSYCHOANALYSIS

Freud's prime contribution is the conception of an unconscious section of the mind which comprises the greater part of the sum total of mental activities and which exists entirely unsuspected of the conscious mind. The unconscious is a place of ceaseless activity, of turmoil, in which the actors are instinctive desires, habits and tendencies acquired in childhood, buried memories and the so called complexes. The resultants of the conflicts constantly occurring between these forces provide the motives of conscious thought and of action. We are continually striving to satisfy our unconscious desires.

The habits and tendencies acquired in early life, before the age of five or six years, are particularly important for then the mind is most impressionable, and these persist to exert their influence on all later mental activities. These early attitudes affect development and, if abnormal, the effects are likely to be cumulative so that an apparently slight disturbance may prove, in later years, to be disastrous. The conflicts are so intense and the balance so fine that it is not difficult to see how this can be the case. Say, for instance, timidity or egotism become marked characteristics in childhood, the effect on all later conduct will obviously be profound.

Neurosis and personality defects are supposed alike to be grounded in defects in early habits and tendencies. Development is distorted and childish attitudes toward many situations persist into adult life. The neurotic is a childish person who is constantly trying to satisfy childish desires. Adult activities do not suffice to satisfy his cravings. Always he is trying to appease little egotisms and little physical appetites and to this end he will put forth the greatest efforts. It is surprising how far many people will go to justify some unimportant opinion or act. The convulsions of the neurotic satisfy some desire. Aches and pains win him sympathy and at the same time excuse his deficiencies. Sleeplessness is an evidence of intense unconscious conflicts. All neurotic symptoms serve one and usually several purposes.

Complexes influence conduct in many irrational ways. Familiar examples are the fears of snakes and thunderstorms. Also hates, which are powerful human motives, have their origin in complexes. We say we hate a man because he is bad but in reality we hate him because he is superior to us in some way or because he has red hair and reminds us of a man with red hair who once did us an injury. These motives are hidden to ourselves but are usually clear enough to our friends, who are amused by them.

Personality defects, such as "high temper," bashfulness, egotism, excitability, worrying, vindictiveness and food dislikes, have an origin similar to that of neurotic disorder. The man with a grievance, for instance, simply has retained a sense of injury he once felt toward one or another of his parents.

Such is the Freudian conception of causation.

Treatment consists in the searching out and making known to consciousness the sources of the disturbances. Once thoroughly appreciated by the conscious mind the hidden causes are supposed gradually to lose their force. For illustration we shall mention the case of a soldier with a persistent tremor of one arm which ordinary methods did not alleviate. Upon investigation it was found to have started at the moment the patient, while advancing in battle, put his hand through the torso of a decaying German. The tremor immediately became much less extensive and in a few days disappeared altogether.

In psychoanalysis investigation and treatment proceed together. It is a long and tedious process. A thorough analysis requires from three to five hourly interviews a week over a period of six to eighteen months. In selected cases the results are very good, but often, for one reason or another, they are dis-

appointing. It is not a very practical method. With many cases results equally good may be achieved with much less expenditure of time by ordinary suggestion and encouragement.

DYNAMIC PSYCHIATRY

This second psychogenic school is largely an American product although it is traceable to the work of the Swiss psychiatrists, Jung and Bleuler. Americans have never shown themselves capable of mastering the intricacies of psychoanalysis and so, probably in self defense, were forced to develop the simpler dynamic psychiatry, as they choose to call it. Despite its manner of origin it clearly has merit.

Whereas the Freudian school dwells on intrapsychic mechanisms such as have just been described, dynamic psychiatry emphasizes the environmental influences. The surroundings as they likely influenced the patient's mind are studied in detail. Investigation concerns the characteristics of the parents and the brothers and sisters because they particularly influence the mind of the child and, therefore, of the adult also. Later influences are considered in relation to these and as exciting factors in a neurosis or conduct disturbance. Thus the cause of timidity is found to be a domineering parent, of instability a nagging parent, of neurosis a vacillating over-affectionate parent. A drinking father usually has neurotic children. Upsetting causes are often trying economic conditions, an erring spouse and the like.

These external influences are usually determined with ease and their bearing is quite obvious. With a little practice any one can find them and estimate their importance. In this way most mental attitudes or acts can be very quickly accounted for. As regards finer details of conduct, however, the method is only approximately accurate, further knowledge of intrapsychic mechanisms being necessary to form more accurate conclusions. For practical purposes absolute accuracy may not be essential.

Treatment, after the method of dynamic psychiatry, consists in altering the surroundings to soften stresses and to encourage initiative. The hard parent is softened or the soft parent hardened; or the child may be taken out of the home for a time. The over-affectionate or nagging parent is curbed. The child is removed to a room in school with a more suitable teacher. The erring partner is entreated to mend his ways or to go his way. More congenial and remunerative work is found. And so on.

Under good conditions the results are usually excellent, particularly in the case of children; with bad conditions results are poor or

nil; and herein lies the chief defect of the method. It is not easy for adults to change their ways even though the bad effects of these ways on the patient are appreciated. It is difficult to change surroundings very extensively. Still a small change often has a beneficent effect and is always worth trying. With adults the results are not so good.

The difference between the viewpoints of psychoanalysis and of dynamic psychiatry is striking. With the former the individual mind is everything. Properly adjusted within himself, the patient is supposed to be able to meet any situation. The latter, on the other hand, makes the environment nearly everything and treats the patient as a kind of automaton. Clearly, the right view is a compromise between the two and practically both adopt this attitude, although not yet as completely as they might. The point about both is that they treat medical complaints of a neurotic nature as such and not as the manifestations of some hypothetical organic disease; and, consequently, are more effective therapeutically than physical measures.

BIOLOGICAL VIEWPOINTS

In marked contrast to the psychogenic schools biologists believe that the greater part of mental characteristics are inborn and unalterable. Pearson says that not one fifth and possibly not one tenth of the personality is derived from experience. So to the biologist the whole psychic mechanism is but the foam on the surface, and hardly worth bothering about. If you desire a stable, intelligent patient, he says, the thing to do is to select for him the right sort of parents and the result will follow inevitably.

The biologist's position is a strong one. We all know the influence of inheritance on physical make up and must assume that it is nearly as important for the mental character. Brothers and sisters, although they clearly grow up under similar surroundings, often present the greatest differences in mental characteristics. It has been found that identical twins separated in childhood often present in after life very similar mental tendencies. We know that no amount of training will make a great musician, artist or mathematician out of most children, yet a very little training will produce enormous results in the exceptional child. The same is true of most mental attributes. Consequently, it must be admitted that the effects of environment are limited.

Still we know that the mind is eminently adaptable—its purpose is adaptation. Psychic factors are important in conduct even though they constitute only one tenth of the total mental constitution. Furthermore, we must

treat patients as we find them; and as their heredity cannot be changed we must do as much as possible with the plastic component of the mind. The results of treatment practically always justify the effort. That is undeniable, as the patient himself will tell you. While admitting the biologist's contentions, the psychiatrist still finds reasons to continue his work.

DEGENERATION

Psychiatrists and biologists both stop with the individual as the sum of what he is born with plus what he acquires by experience. In this they may overlook another factor. Neurologists, from their experience with disease, have become familiar with a process unknown to the others, namely degeneration. Degeneration is a common process, being the source of about fifty neurological conditions. It is due to inborn weakness but is often not hereditary in the sense in which that word is commonly understood. Thus we have progressive muscular atrophy which is never hereditary and Huntington's chorea which is almost invariably hereditary, both of which are due to this process. Our present ideas of heredity are in need of revision and much further work on this subject must be done.

Some neurologists have stated their belief that insanity and epilepsy are due to degeneration. Mollweide and Kleist, have for years supported the view that dementia precox is a result of degeneration and no other theory is so consistent with all the facts. The only close analogy for the deterioration in mental capacity found in both dementia precox and epilepsy seems to be that occurring in Huntington's chorea. The seizures of epilepsy remain unaccounted for but Krisch and Wimmer have recently advanced the view that these may be a form of so called extrapyramidal disturbance, of which chorea is another type. Thus, both as to mental deterioration and motor disturbance, epilepsy would present an exact parallel to Huntington's chorea. The pathological process would be the same, differences in symptoms being due to a slight difference in the parts of the brain affected. It is true that the lesions have never been demonstrated but an adequate investigation of the proper part of the brain, the base, has probably never been made.

Thus for the first time we have a plausible theory to account for dementia precox and epilepsy. If established, this theory marks an epochal medical advance.

Degeneration does not imply the hopelessness for dementia precox that at first sight it would seem to do. For the structures destroyed, while important, are not essential for quite ef-

ficient mental functioning. Or their function may be vicariously assumed to a great extent by remaining structures. The more disturbing mental symptoms in dementia precox such as delusions, hallucinations, and catatonias, are conceded by Kraepelin to be psychogenetic and secondary. If this assumption is true, they should be amendable to mental therapy and practically they undoubtedly are in large degree. No better results are accomplished in medicine than by the proper treatment of dementia precox. While a complete cure cannot be effected the patient may be made fairly efficient and comfortable.

In dementia precox psychoanalysis is generally thought not to be desirable. Suggestion, encouragement and adaptation of surroundings are the measures of choice. Results are slow in coming but in the end justify patience and hard work.

OTHER THEORIES

Conceptions other than those mentioned have not yet been found to have enough support to justify giving them much attention. Endocrine imbalance, focal infection (which Cotton so strongly supports), low grade infection, such as tuberculosis and epidemic encephalitis, nutritional disturbance and fatigue, have little in their favor.

PREVENTION AND TREATMENT

From what has already been said a good deal may be inferred about these phases of the subject. Heredity deserves far more attention than it has received but until it is better and more widely understood little can be done about it in a practical way.

The surroundings of the child may be regulated to the advantage of both prevention and treatment. Regulation corrects such disturbances as nervousness, wilfulness, truancy, food dislikes, restless sleep and stealing; and may serve to prevent neuroticism and personality defects in later life. Instead of the old methods of scolding, whipping or frightening the erring child, we now employ more rational and effective measures based on a study of his point of view and of his environment. The movement of establishing so called habit or child guidance clinics for children has reached considerable proportions. These clinics are now found in many cities and one can foresee a great extension of their use in many directions.

For treatment of the adult, it is necessary to use discrimination as to what is practical for the person as well as the disease. As stated, psychoanalysis may be employed in the exceptional case. Suggestion and explanation can be used in any case. It is for the best that the

neurotic should understand the nature of his trouble, for doing so relieves him of many fears and also places him in a position to do much for himself. A visit away from his home and work is usually a great help because he then gets opportunity to alter his viewpoints and make new adjustments which may persist after his return. The vacation is a health measure in a mental as in a physical way.

The neurotic who wishes to get well must realize that he has a big job before him. His entire mental make up must be changed—he must *learn* new reactions and as for all learning this takes time. The procedure is much like that of acquiring a foreign language and requires about the same amount of time and effort. And it is certainly as much worth while.

In this relation, the value of some advice given by William James years ago should be remembered. James pointed out the advantage of keeping free of the dominance of little habits which may grow to enslave us; or, put in another way, of keeping the will sufficiently active to overcome such habits. To this end, he advised everybody to do something really difficult every day. This might consist in giving up a cigar, the morning cup of coffee, in learning a verse of poetry, or what not. However small the task, the general effect is excellent. The neurotic and all of us are the slaves of habit and such a procedure as that suggested by James would certainly cure most of our neurotic disturbances.

SUMMARY

The neurotic disorders comprise the neuroses, the personality defects and the psychoses or insanities. To account for these we have two conceptions of a psychic origin; that of Freud stresses the importance of unconscious conflicts, while dynamic psychiatry, so called, emphasizes the influence of surroundings. The biologists, on the other hand, believe that the greater part of personality is traceable to heredity. Some neurologists, furthermore, have advanced the view that dementia precox and epilepsy are due to an actual degeneration of selected brain structures.

For treatment, psychoanalysis is suitable in the selected case. In general we must rely on suggestion, encouragement, regulation of surroundings and similar mental measures. These are much superior to physical measures. Mental therapy is useful in all forms of neurotic disturbance.

Humboldt Bldg.

POLYCYTHEMIA VERA*

REPORT OF SIX CASES

OLIVER ABEL, Jr., M.D.

ST. LOUIS

Polycythemia vera or Vaquez's disease, formerly practically unheard of, is becoming more and more to be recognized as a clinical entity. Vaquez, of Paris, was the first to describe a case in 1892. For ten years afterwards a few cases were reported. Since then several hundred have appeared in the literature.

The condition is characterized by polycythemia, an increased blood volume and a large spleen, the etiology of which is unknown. The treatment at present offers nothing in view of a permanent cure; although roentgen ray, radium, benzol and phenylhydrazin hydrochloride have given temporary relief in some cases.

Four of the cases that we are to present were treated with phenylhydrazin hydrochloride. Phenylhydrazin was first used to produce secondary anemia in animals; after which Eppinger¹ suggested its use in the treatment of polycythemia vera. Taschenburg² used the drug in the treatment of one case. Levi³ reported a case of polycythemia vera in which phenylhydrazin was used. The patient died from an intercurrent disease. The autopsy revealed a much enlarged spleen, the bone marrow was hyperplastic, the myelocytes obliterating the normoblasts, and there was a cirrhosis of the liver. The possible influence of phenylhydrazin in producing cirrhosis of the liver is a question of utmost importance. Levi believes that most likely the blood destruction injures the liver and that phenylhydrazin only exaggerates this blood destruction.

Phenylhydrazin has been shown to cause cirrhosis of the liver. Wells⁴ studied the organs of dogs, cats and guinea pigs to which he had given toxic doses of hydrazin. Underhill and Klenier⁵ also found very constant changes. The liver was friable and yellow. There was fatty degeneration of the parenchymatous cells beginning at the center of the lobules and progressing outward. Bodansky⁶ made a similar study estimating the amount of liver damage by sugar tolerance tests. He found that some of the derivatives of hydrazin were less destructive to liver cells than others, though they are equally effective in destroying red blood cells. Acetylphenyl hydrazin was found to reduce the red blood cells without damage to the liver cells. However, it is not as powerful in its action as phenylhydrazin. Owen⁷ points out that the importance of these observations lies in the fact that we may find other derivatives of

* From the Soper-Mills Clinic.

the hydrazin series which will be more suitable to use for therapeutic purposes than phenylhydrazin. Owen reports five cases of polycythemia vera in which phenylhydrazin acted beneficially, this being evidenced by the uniform decrease of the hemoglobin and the red blood cells, and a great improvement in all symptoms.

Brown and Giffin⁸ report seven cases treated with phenylhydrazin in which the clinical improvement was satisfactory in all but one case; in the latter marked hypertension persisted. A gradual increase in the red blood cells and volume of blood necessitated a second course of treatment in from three to six months after the first. The drug was given in doses of 0.1 gms. three times a day, the total given varied from 3.4 gms. to 7.6 gms. It was found wise to discontinue the use of the drug when the red blood cells dropped to 4,500,000; it is estimated the destruction of blood will continue for approximately a week longer. They state that phenylhydrazin causes a more consistent improvement in the symptoms and a more constant reduction in the blood volume than either radiotherapy or venesection.

Strasburger⁹ considers that by means of X-ray irradiation of the bones prolonged benefit is only rarely obtained in these cases. A very good effect was produced in four of his patients by the administration of phenylhydrazin. He

gave 0.1 to 0.2 gms. daily, altogether 1-2 gms. being required for a course of treatment. No untoward effects were noted.

REPORTS OF CASES

Case 1. M.D., age 35, female. First observed in May, 1920. At that time she complained of pain in the epigastrium, gas and colicky feeling; had frequent severe headaches and was very nervous. Menses had stopped at an early age. Her headaches were of the migraine type. The past and family histories were unimportant. General physical examination at the time was essentially negative except for slightly enlarged tonsils. The heart was negative and the blood pressure was 96 systolic and 74 diastolic. Gastro-intestinal X-ray was negative and the conclusion was reached that her digestive disturbances were functional in character. Wassermann and urinalysis were negative. Ewald-Boas test meal showed a normal acidity. The blood picture was normal.

She was kept under observation from time to time, chiefly by correspondence, and she appeared to make a very good improvement under general corrective dietetic and hygienic regime. The headaches continued to bother her, however.

In August, 1925, five years later, she developed an acute hydronephrotic kidney with retention of blood stained urine. It was felt that she had passed a small stone. An uneventful recovery was made from this condition. At that time, however, she had a blood picture of the following; red blood cells, 8,120,000; white blood cells 13,000; hemoglobin of 113 per cent. The differential count was normal. The spleen showed considerable enlargement. The diagnosis of polycythemia vera was made and phenylhydrazin hydrochloride was given.

TABLE 1—Doses and Variation in Blood Count

Date	Dose of Phenylhydrazin	Hemoglobin	R. B. C.	W. B. C.	Comment
9-15-25	Gm. 0.1 each day for 12 days.	113%	8,120,000	13,000	
9-22-25					
10-9-25					
10-20-25	Gm. 0.1 each day for ten days.				Felt much better past week. Noticed skin very yellow.
11-5-25		55%	2,280,000		
12-13-25		85%	4,690,000		
1-3-26					Doing nicely. Feels stronger.
1-11-26		80%	6,280,000		
1-20-26	Gm. 0.1 each day for 6 days.				
1-28-26		90%	5,420,000	12,150	Does not feel so well while taking medicine.
3-1-26		90%	6,270,000	13,300	
3-27-26	Gm. 0.1 each day for 3 days.				
4-12-26		95%	6,800,000	13,800	
4-26-26	Each day 0.1 gm. for 2 days.				
5-2-26	0.1 gm. for two days.				
5-5-26		98%	6,830,000	13,500	
6-10-26		85%	5,620,000	9,400	
6-25-26		90%	7,500,000		While under this last medication she states that it caused discomfort in several ways. She does not rest at night, has indigestion and has an unsteady feeling while prior to the medicine she felt much better.

This patient lived out of town and for the most part, outside of her initial treatment with phenylhydrazin, her treatment was continued by correspondence, her blood counts being done by Dr. Robt. N. Crews, of Fulton. It will be noted from the table that a rather severe anemia developed during her treatment. She felt better after the first course of

treatment and immediately after her anemia subsided. The patient did not respond well to later treatment,—that is, the medication upset her and made her decidedly worse.

Case 2. J. B., male, age 54. Complains of pain and gas in upper abdomen coming on immediately after meals and sometimes at night. These symptoms

have been noticed for the past two years. Complaints of being light headed at times and two years ago he fainted. At that time he knew that his spleen was enlarged. The past history otherwise is unimportant and the family history is negative.

Examination showed a well developed and nourished man with a ruddy complexion. There was a rather marked dilatation of the capillaries about the face and ears and to a lesser degree over the chest. The heart was negative. The blood pressure was 118 systolic and 80 diastolic. The spleen was en-

larged and extended below the umbilicus. Physical examination was otherwise negative. The urine, stool and the Wassermann test were negative. Gastro-intestinal X-ray showed a duodenal ulcer, a redundant and spastic colon and a colonic motor delay. The blood picture was R.B.C., 7,480,000, hemoglobin 121 per cent. and W.B.C., 9,200. The differential count was normal. The ulcer responded promptly to dietetic treatment. The following is the chart showing his course during treatment:

This patient responded well to the first course of

TABLE 2

Date	Dose of Phenylhydrazin	Hemoglobin	R. B. C.	W. B. C.	Comment
4-10-26		121%	7,480,000	9,200	
4-14-26	0.1 gm. twice daily for two days.				
4-16-26	0.1 gm. once a day for four days.	125%	6,700,000		
4-20-26	0.1 gm. twice a day for three days.	118%	6,600,000		
4-23-26		95%	5,025,000		
4-25-26	0.1 gms. once for one day.				
4-26-26		89%	4,960,000		
4-28-26		79%	4,720,000	28,000	
5-4-26		54%	2,990,000		Weak. Symptoms and signs of anemia. Yellow color to skin.
5-14-26		70%	3,750,000		
5-19-26		79%	3,520,000		Feels better.
5-25-26		85%	4,010,000		
6-1-26		91%	4,800,000		Fine. No headache.
6-8-26		98%	5,080,000	8,800	Fine.
6-15-26		112%	6,000,000		Fine. No headache.
6-29-26		118%	6,900,000		
7-15-26	0.1 gm.	124%	7,400,000		
7-17-26	Gm. 0.1.				
7-23-26		117%	7,500,000		Felt badly while taking
7-30-26		128%	8,200,000		medicine. Felt weak.

phenylhydrazin. However, when phenylhydrazin was administered later the patient complained and stated that he felt weaker and considerably worse after taking the medicine.

Case 3. (Referred by Dr. Frank R. Finniøan.) Female, age 55. Complaints of weakness and exhaustion, nausea and vomiting and has pain beneath sternum. The symptoms have been bothering the patient for the past six years. The family and past history were essentially negative.

On examination there was found a dusky complexion. The capillaries on the face and hands were dilated. Some caries of teeth. The lungs showed signs of some thickening at both apices. The apex beat of the heart was in the 12th intercostal space

12 cm. from the midsternal line. There was a blowing systolic murmur, at the apex. The rhythm was regular and the blood pressure was 140 systolic and 90 diastolic. The arteries were soft. The liver was enlarged to 4 cm below the costal margin and the spleen was enlarged. There was some shifting dullness in both flanks and there was slight pitting of ankles.

The blood showed red blood cells 8,500,000, hemoglobin 111 per cent. Urine showed trace of albumen; otherwise it was negative. Phenolsulphonaphthalein test was 65 per cent. in two hours. N.P.N. was 37 gms per 100 cc. The Wassermann test was negative. Phenylhydrazin hydrochloride was given. The following chart shows the course of treatment:

TABLE 3.

Date	Dose of Phenylhydrazin	Hemoglobin	R. B. C.	W. B. C.	Comment
8-1-26		111%	8,500,000		
8-2-26	0.032 gms. t. i. d. for 6 days.				
8-8-26	0.032 gms. t. i. d. for 4 days.				
8-24-26		97%	5,360,000		
9-10-26	0.032 gms. once a day for 4 days.				
9-14-26		90%	4,970,000	7,400	
9-28-26		93%	4,780,000		
10-12-26		83%	4,580,000		

At present the patient is free of symptoms and feels considerably better.

Case 4. O. G., age 57, male. Complaints of nausea two to three hours after meals, constipation and has headaches behind eyes. The attacks have been present for the past three or four years. The family and past histories are negative. Examination showed a well developed man with a ruddy complexion. The

capillaries of the face and ears were dilated. The heart was negative. Blood pressure was 135 systolic and 90 diastolic. Examination was otherwise negative. Gastro-intestinal X-ray showed a definite deformity of the duodenal cap near the pyloric ring characteristic of ulcer. Colonic diverticulosis was also noted. Gastric analysis was normal. Urinalysis showed a faint trace of albumen, otherwise nega-

tive. The blood showed red blood cells 7,340,000, hemoglobin 115 per cent. and white blood cells 8,000. The differential count was normal. The ulcer improved under dietetic treatment.

The patient lived out of town and we were unable to follow his course. However, while under observation the red blood cells dropped to 6,840,000 and the hemoglobin to 109 per cent. three days after 0.194 gms. of phenylhydrazin hydrochloride was given.

Case 5. C. R. Male, age 63. Came under observation in September, 1924. His chief symptoms were constipation, abdominal flatulence, colicky cramps, vertigo, headaches and general nervousness. His spleen was not enlarged but his face, ears and finger nails showed a definite enlargement of the capillaries characteristic of polycythemia vera. Blood culture was negative. Wassermann reaction negative. Blood tests were as follows:

JUNE 19, 1924

Polymorphonuclears	71
Mononuclears	3
Lymphocytes, small	24
Lymphocytes, large	2
Parasites	None seen
Hemoglobin	106
Erythrocytes	6,160,000
Leucocytes	7,000
Red cells apparently normal.	

JULY 9, 1924

Hemoglobin	101
Erythrocytes	5,860,000
Leucocytes	6,000

OCTOBER 28, 1926

Hemoglobin	127%
Blood smear	Negative
Red cell count	6,600,000
Leucocyte count	7,200

He was not given any phenylhydrazin. The first of December, 1924, he was operated upon for intestinal obstruction and was making very good postoperative recovery when he had a sudden cerebral hemorrhage that resulted in death twenty-four hours later.

Case 6. M. G., age 62, male. Complains of nervousness and dull aching sensation in lower abdomen. Duration six months. Patient has lost thirty pounds in past nine months. Bowels regular. One to two formed stools daily. No headaches or vertigo. The family and past histories are negative.

Examination showed a fairly well nourished man. The tonsils were scarred and imbedded, teeth showed some pyorrhea. The capillaries of the face and body were dilated. The heart was negative, arteries slightly thickened. The blood pressure was 108 systolic and 80 diastolic. Abdominal examination revealed an enlarged liver, the edge extending 3 cm. below the costal margin. The spleen was not felt. Physical examination was otherwise negative.

Gastric analysis showed a normal acidity. Urinalysis and Wassermann reaction were negative. The stool examination revealed considerable mucus. X-ray of the gastro-intestinal tract was essentially negative except for a pathological appendix and spastic colon. Cholecystography showed the gall-bladder visualized, no evidence of stones. The basal metabolism was plus twenty-six.

The blood picture was as follows: R.B.C. 6,300,000, Hemoglobin 118 per cent., W.B.C. 12,950. Differential count normal. Hematocrit determination was 67 per cent.

The diagnosis of polycythemia vera was made; also catarrhal colitis and hyperthyroidism. This patient has not been given phenylhydrazin or any other medication for his erythremia as he has just come under observation.

COMMENTS AND CONCLUSIONS

Our results following the administration of phenylhydrazin were rather disappointing. It is possible to produce a reduction in the number of red blood cells and in the percentage of hemoglobin. However, it is difficult to regulate the dosage. In two of our cases severe anemia was produced. The patient as a rule feels better when not taking the drug. Its effect is only temporary in character and it certainly cannot be expected to influence the course of the disease. As pointed out by Giffin, the damage to the vascular system in polycythemia is constant and progressive in character. The association of duodenal ulcer and polycythemia vera in two of our cases may be considered coincidental in character. However, the disturbance in the blood circulation in the duodenum might possibly be an etiological factor in the production of ulcer.

Wm. J. Mayo¹⁰ removed the spleen in one case of polycythemia vera. The case was apparently in its terminal stages and the operation was performed because of the frequent severe hemorrhages. The patient made a remarkable recovery and has remained well for four and one half years following the operation.

The part that the spleen plays in the etiology of polycythemia vera is not known. However, when we consider the progressive character and the eventually fatal outcome of the disease it would appear logical that splenectomy should be given a trial in a series of cases.

3701 Westminster.

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EDITORIALS

ATTEMPT TO EMASCULATE MEDICAL BILL

Our members generally have no doubt felt confident that the medical bill in the legislature—Senate Bill No. 40 and House Bill No. 123—was ready for the governor's signature because it was announced in the newspapers that the bill had passed both Houses. It is true that both the House and the Senate passed their own bills and the House of Representatives has passed the Senate bill. In passing this bill, the House adopted an amendment introduced by Mr. Hegee, of St. Louis County, which practically destroyed the strength of the measure as a check against examining diploma mill products. This amendment reads: "Provided that any graduates who hold a diploma from a legally chartered medical school in this state prior to July 1, 1925, shall be eligible to take said examination." Mr. Hegee offered another amendment, which was adopted, that defines a reputable school as one "that enforces four years requirements." In doing so he makes the measure as ridiculous as it was when the word "reputable" was taken out.

These amendments compelled Senate Bill No. 40 to go back to the Senate for concurrence. No action has been taken by the Senate on these amendments at this writing.

The argument Mr. Hegee presented to the members of the House of Representatives for the adoption of these amendments was burdened with the plea that they were needed in order to protect the rights of a few men who had innocently entered and graduated from the diploma mills during the two years when the word "reputable" was not included in the statutes. When, however, the amendment was printed it was discovered that instead of providing for two years the board would be compelled under the amendment to examine any "graduate" of any legally chartered medical school in Missouri up to July 1, 1925. That sort of wide open privilege would, of course, render the reciprocity measure useless and re-

quire the board to make innumerable investigations of such applicants at the expenditure of large sums of money. For this and other reasons our legislative committee declined to accept this amendment and concentrated its efforts on the adoption of the House Bill in the Senate which had passed without amendments. At this writing, House Bill No. 123 is on the Senate calendar for third reading and will be called up for passage probably before this issue reaches our members. We believe it will pass the Senate without amendments and then go to Governor Baker for his signature.

Senate Bill No. 201 introduced by Senator Kinney to provide for the care of crippled children in the State Hospital at the State University is on the calendar for third reading and has a very good prospect of passage.

House Bill No. 124 which prohibited all experiments on animals, except under restricted university authority, has been amended so as to permit scientific experiments and investigations.

The Chiropractic Bill has passed the House and is on the calendar in the Senate for third reading. If it is called up for passage in the Senate there will be a number of amendments offered.

The Nurses' Bill has been amended in numerous ways, one important amendment being to permit the licensing of practical and obstetrical nurses, and is on the calendar for engrossment in the House. It does not seem to have any chance of passage.

The Optometrists introduced a new bill early in the session which was a rather indefinite and unsatisfactory measure but it has rested quietly in the committee ever since its introduction. One of its provisions could have been construed as prohibiting physicians from refracting eyes without a license from the Optometry board. It has no chance of passage.

The bill to create a department of mental diseases, which was designed to make expert medical testimony in criminal trials a dignified and creditable procedure, was killed early in the session.

A reactionary measure that would throw our eleemosynary institutions back into the political pot is House Bill No. 353. This bill abolishes the office of state psychiatrist and makes the president of the state board of eleemosynary institutions the czar of all the institutions. It increases his salary by a thousand dollars, creates a secretary of the board at a salary of \$1800, and increases the salaries of the superintendents of the eleemosynary institutions and of the assistant physicians. It has progressed to third reading in the House, being on the calendar at this writing. It will have to pass the Senate before it can become a law.

A drastic measure is Senate Bill No. 218 which would penalize physicians with two to five years in the penitentiary for felony for issuing a prescription without first examining the patient, or delivering a prescription to any person other than the one for whose use it is intended, or for selling a prescription in blank. Our legislative committee through General Caruthers, our representative, soon convinced the author of the bill and the Committee on Criminal Jurisprudence that such an extreme penalty could easily work a very serious injustice on a physician who might innocently violate the letter of the law or place such physician at the mercy of a particularly unfriendly court or jury. The bill has been amended so as to make it a misdemeanor for violations of reasonable provisions. At the present writing the bill is still in the committee.

A measure that would permit county and city hospitals to form joint rules and regulations has many good features. It has not progressed beyond the Committee on Municipal Corporations so has little chance of passage at this session.

Senate Bill No. 96 and House Bill No. 172 make it a misdemeanor for medical schools to issue diplomas to persons who have not attended at least eighty per cent. of the required course and also make it a similar offense for any person to receive a diploma without having attended at least eighty per cent. of the full course. This bill has a good chance for passage, it being now on the calendar for third reading in the Senate.

FOR THE CRIPPLED CHILDREN OF MISSOURI

It seems as though the crippled child has only recently been discovered. There are apparently three or four times as many as there are children who are deaf or blind, and where deafness and blindness cannot be cured the great majority of cripples may be made nearly, or quite, normal. The appreciation of this situation has come almost as a revelation. Thirty states have organized societies for crippled children in the last five years and twelve states have made state provision for them, while all of our large progressive cities are now building magnificent schools for their care and education.

Early in the season a joint resolution was introduced into the House and Senate calling for a state commission to consist of the commissioner of health, the state superintendent of public schools, one member from the House and one from the Senate, and an orthopedic surgeon to study the situation and report to the next legislature. This resolution passed both Houses without a dissenting vote. Dr. A. H. Baldwin, Pleasant Hill, has been appointed to

represent the House and Senator Baylis T. Gordon, Liberty, has been appointed to represent the Senate.

On the 18th of February there was a meeting at the Medical School of Washington University to consider the subject of the crippled child and to organize a state association. At this meeting there were talks by Drs. Stewart, O'Reilly, and Curtis, Dean Marriott, of the Washington University Medical School, and others. A temporary organization was formed with Dean Marriott as president; William Volker, first vice president; Mrs. Belle McCahn, second vice president; Mrs. Elias Michael, third vice president; Mrs. Ira Bretzfelder, treasurer, and Mr. Frank Kimball, Secretary of the State Board of Charities, secretary.

During the week of April 11, Daddy Allen, President of the International Society for crippled children, is to be present and help in the permanent organization of the association. He will spend Monday the 11th in Springfield, the 12th in Kansas City, the 13th in St. Joseph, and probably the last three days of the week in St. Louis. On the 15th there will be a general meeting with the adoption of the constitution in final form and the election of permanent officers.

Daddy Allen's home is in Elyria, Ohio. He had been a big business man, with factories in several states, and president of two banks. He lost his son and built for him a memorial hospital in Elyria. Attached to this hospital was a children's wing which was taken more and more for crippled children. For the last eighteen years Daddy Allen has given his life entirely without compensation to the cause of the crippled child. He organized the International Society five years ago and has been largely responsible for organizing the work in the different states. Everyone who has a chance to hear this crusader with the real crusading spirit should do so.

FREE CANCER CONSULTATION CLINICS

The idea of holding free cancer diagnostic clinics in connection with a general educational campaign for the control of cancer is not new. In 1925, under the state chairmanship of Dr. Fred J. Taussig, St. Louis, such clinics were established and extensively advertised during the campaign. At that time the clinics were held at eight regular free clinic stations or city dispensaries scattered over the city of St. Louis. The attendance at these clinics hardly justified the effort expended.

Successful clinics had been held in Washington, D. C., and in Detroit, so that there

was some prospect of meeting success in St. Louis this year, provided the whole medical profession could be persuaded to cooperate. For these reasons Dr. Ellis Fischel, St. Louis, State Chairman for the 1927 campaign, and the St. Louis committee decided that if the council of the St. Louis Medical Society would permit the use of the new building of the medical society for free clinic use, the experiment would be repeated. The officers and council of the medical society donated the use of all or any part of the magnificent new society building for use in the campaign and the plan of the building together with its central location made its use for general clinic purposes ideal.

The committee decided to hold the cancer clinic during three days towards the end of the campaign, Saturday, Monday and Tuesday being selected. The dodger, "Danger Signals," was reprinted in every detail with the additional information that a free cancer consultation clinic would be held at the St. Louis Medical Society Building, 3839 Lindell Boulevard, Saturday, Monday and Tuesday, January 22, 24 and 25. Thirty thousand of the dodgers were distributed in the city of St. Louis. In addition, all the daily newspapers carried news items about these clinics so that a rather large attendance was anticipated. In order to prevent too great crowding, the clinic hours were from 9 to 5. Physicians personally known to the state chairman were asked to volunteer their services for two hours at a time for one or more days. The Junior League was asked to cooperate by furnishing two members to be constantly in attendance to register the patients. A "differentiator" (former clinic assistant) volunteered her services. A registry of trained nurses volunteered to provide two trained nurses for each of the three days. One of the chairman's private office force was in constant attendance to collect the registration cards, to give final instructions and lists of doctors to patients, and to distribute literature.

There were no facilities to make extensive examinations of the patients. This had been taken into account in the wording of the announcements. By the use of three panelled screens and one room, examinations which did not require the recumbent position were made. Vaginal, abdominal and internal rectal examinations were not attempted. All such patients were talked to, their symptoms and signs carefully considered, and they were advised either to forget their troubles or to report to their own doctor for examination. If they did not have any doctor in mind, they were given a list of physicians who were members of the medical society. The executive secretary of the med-

ical society divided the entire membership of the society into the various specialty groups according to the specialty indicated in the last Directory of the American Medical Association. A list of names for each specialty was then prepared, mimeographed copies struck off, and the proper list as indicated by the physician who examined the patient given out as the patient left the clinic. If the patients wished further free treatment or advice they were referred to one of the established free clinics nearest their place of residence.

On the first day of the clinic, 176 patients came in. These were handled smoothly without any confusion. There were ten cases of early recognizable cancer in this group. The Sunday newspaper made quite a feature of these ten cases, with the result that on Monday morning the clinic was swamped. One hundred patients arrived before nine o'clock. Over six hundred applied before five o'clock and it was six-thirty before the last physician on duty could leave. Tuesday about four hundred applied. During the three days 1,181 registered and an analysis of the simple registration cards is not without interest.

Of the 1,106 patients whose cards were turned in, there were 690 females, 416 males. The ages of the patients ranged from 4 years to over 80. By decades, these were divided as follows:

Table 1. Age of registrants

Under 10	4
10 - 20	12
20 - 30	110
30 - 40	302
40 - 50	272
50 - 60	241
60 - 70	109
70 - 80	49
Over 80	2
No age on card	5

Total1106

In reference to the location of the supposed cancer, as stated by the patient, the following data were listed:

Table 2. Location of lesion

Head—	
Scalp	20
Face	108
Nose	66
Lip	45
Inside mouth	98
Neck	19
Breast	164
Trunk	54
Extremities—	
Upper	52
Lower	42
Abdomen	306
Gynecological	96
Male Genitalia	5
Rectum	31

Total1106

In the analysis of what was elicited from the patient and from such examination as could be made, the following divisions were found:

Table 3. Analysis of Registrants

Cancer suspects	192
Pre-cancerous	115
Benign tumors	222
Early cancers	31
Early probable cancers	9
Advanced cancer	11
Cancer, not classified	4
Post-operative cancer	12
Very malignant cancer	2
Early malignant type	3
Pain with no tumor	11
(Of which 10 were in the tongue)	
Cancer phobia	442
Insufficient data	52
Total	1106

In previous years it was the large group of cancer phobia type that consulted the physicians of the city, which led to some criticism of the cancer campaign. It was hoped that by establishing the free consultation clinic a large percentage of the cancer phobia patients could be eliminated from the offices of private physicians. The chairman has received comparatively few complaints from his colleagues on this score. The experiment of holding the free clinic at the medical society was considered by the profession at large and the officers of the medical society as a success. In fact, in St. Louis a new era may be said to have been initiated as a result of the cancer campaign. The medical profession generally appears to have accepted the theory that it is part of their duty to the public to keep the people informed about diseases which may be prevented or controlled through a lay knowledge of these diseases.

From the standpoint of the St. Louis Committee, the cancer clinics were well worth while. To have discovered thirty one cases of curable cancer is rather worth the effort, regardless of whether or not the one hundred and ninety one cancer suspects follow up instructions given them at the time of the consultation. As yet, there has been no time to make inquiries about the more important cases. The Hospital Social Service for the city of St. Louis has promised a certain amount of cooperation for the follow-up.

THE MISSOURI MENTAL HYGIENE CONFERENCE

The Missouri Society for Mental Hygiene, a state wide organization of which Dr. M. A. Bliss, St. Louis, is chairman, is active in arrangements for the Missouri Mental Hygiene Conference to be held un-

der its auspices in the auditorium of the St. Louis Medical Society on April 4 and 5.

The Missouri Society for Mental Hygiene has been active in the state for the past ten years. It has promulgated measures and supported legislation for the betterment of the mentally afflicted of our state. It was largely through its efforts that the St. Louis Psychiatric Clinic, studying behavior chiefly in children with the idea of promoting the mental health of children leading to greater social efficiency, and the St. Louis Training School for the training of the mentally handicapped children of St. Louis, were established.

As a result of the observations of the Missouri Society for Mental Hygiene during the years of its activity, the conclusion has been reached that too little is known by the public of factors that contribute to the mental health and conditions that lead to mental disease.

In cooperation with individuals and agencies dealing with the application of mental hygiene, it was decided that a potent means of bringing about a better understanding of the possibilities of mental hygiene would be a holding of a mental hygiene conference at which consideration of the many problems in child training could be presented by experts in the field of mental health. Individuals and organizations cooperating in the conference are enthusiastic in regard to its need and value. Prominent individuals throughout the state are giving unstintingly of their time and thought to make the conference a success.

A tentative program has been constructed pertaining to (1) The Child-Parent Relationship, (2) The Normal Mind, (3) Problems of Adolescence, (4) The Behavior of Normal Children, (5) Special Treatment Cases and Lessons to be Gained from Their Study and (6) What is the state and community doing to prevent mental disease and to care for those mentally affected?

Subjects embracing the many relationships of the child, adolescent and adult will be discussed under these headings and it is expected to have all discussions presented in language comprehensible to lay people. In fact, an appeal is made to the lay public to attend the conference which is free to the public in the hope that everyone will be benefited themselves in their understanding of life's problems and helped to a more intelligent attitude in dealing with the problems of others.

There are to be six sessions, morning,

afternoon and evening on each of the two days, and speakers of national recognition will participate in the program.

NEWS NOTES

Dr. Robert E. Schwarz, Assistant Superintendent, Koch Hospital, St. Louis, has been appointed superintendent of the institution to fill the vacancy caused by the resignation of Dr. Joseph J. Singer who is moving to Chicago.

The Annual Party given by Dr. G. Wilse Robinson, Kansas City, to the members of the Jackson County Medical Society was celebrated the night of Thursday, February 24. As on previous occasions, this affair was a most pleasant and enjoyable gathering of Jackson County physicians and their wives as well as other members of the Association from points outside of Kansas City.

The Mississippi Valley Physical Therapy Association convened at the Chase Hotel, St. Louis, on January 18, 19 and 20, with about two hundred physicians in attendance. The program consisted mainly of the reading of practical papers and discussions which would appeal to the general practitioner, that is the man who was not an expert in the theory and technique of modern physical therapy. This was the first meeting held under the official sanction of this society and it was voted to continue these meetings annually at St. Louis. The following officers were elected for the coming year: President, F. H. Ewerhardt, St. Louis; vice president, Lloyd B. Clinton, Carthage; secretary-treasurer, Herluf Lund, St. Louis.

The following articles have been accepted for new and nonofficial remedies:

Eli Lilly & Co.

Ricinoleated Antigen, Scarlet Fever, Immunizing-Lilly.

National Aniline & Chemical Co.

Tablets Gentian Violet Medicinal—"National," 0.0324 Gm. ($\frac{1}{2}$ grain.)

Enteric Coated Tablets Gentian Violet Medicinal—"National," 0.0324 Gm. ($\frac{1}{2}$ grain.)

Parke, Davis & Co.

Glaseptic Ampoules Sodium Cacodylate-P. D. & Co.

Glaseptic Ampoules Sodium Cacodylate-P. D. & Co., 0.5 Gm. ($\frac{3}{4}$ grain), 1 cc.

Glaseptic Ampoules Sodium Cacodylate-P. D. & Co., 0.10 Gm. ($1\frac{1}{2}$ grains), 1 cc.

Glaseptic Ampoules Sodium Cacodylate-

P. D. & Co., 0.13 Gm. (2 grains), 1 cc.

Glaseptic Ampoules Sodium Cacodylate-

P. D. & Co., 0.20 Gm. (3 grains), 1 cc.

Glaseptic Ampoules Sodium Cacodylate-

P. D. & Co., 0.3 Gm. (5 grains), 1 cc.

Glaseptic Ampoules Sodium Cacodylate-

P. D. & Co., 0.45 Gm. (7 grains), 1 cc.

Glaseptic Ampoules Sodium Cacodylate-

P. D. & Co., 1 Gm. (15 grains), 2 cc.

Glaseptic Ampoules Sodium Cacodylate-

P. D. & Co., (For Intravenous Use)

0.20 Gm. (3 grains), 5 cc.

Glaseptic Ampoules Sodium Cacodylate-

P. D. & Co., (For Intravenous Use)

0.45 Gm. (7 grains), 5 cc.

Glaseptic Ampoules Sodium Cacodylate-

P. D. & Co., (For Intravenous Use)

1 Gm. ($15\frac{1}{2}$ grains), 10 cc.

Swan-Myers Co.

Cosmos Concentrated Pollen Extract-Swan-

Myers; Dandelion Concentrated Pollen

Extract-Swan-Myers; Palmer's Amaranth

Concentrated Pollen Extract-Swan-Myers.

The United Laboratories.

Culture Bacillus Acidophilus-United Laboratories.

Nonproprietary Articles.

Ricinoleated Scarlet Fever Antigen.

OBITUARY

CHESTER L. EVANS, M.D.

On Sunday, January 30, 1927, Holt County Medical Society suffered the loss of one of its charter members, Dr. C. L. Evans, of Oregon, who died at the Missouri Methodist Hospital, St. Joseph, after a protracted illness, in his 70th year. His death was due to a complication of diseases.

Dr. Evans graduated from the Northwestern Medical College, St. Joseph, in 1882 and served his Alma Mater as professor of chemistry and toxicology for two years.

He practiced his profession in St. Joseph for a year after his graduation when he moved to Forest City, Missouri, where he practiced for one year, then moved to Iowa Point, Kansas, and engaged in practice for another year. In 1886, he moved to Oregon, Missouri, where he resided and practiced his profession until the time of his death.

Dr. Evans at the time of his death and for many years was an official member of the board of the Methodist Episcopal Church and gave energetically much of his time to its activities. He was also a member of Oregon Lodge No. 139 A. F. & A. M. being

a Past Master of the Lodge and serving as delegate to the Grand Lodge on several occasions.

His membership in the Holt County Medical Society began with its organization and he continued on its roster until the time of his death, being voted honorary membership in 1925. He gave us much of his time and helpful advice and always stood four square for the best in organized medicine. For many years he served us as treasurer and was honored by the state society in being elected counselor of this district for a number of years.

Dr. Evans' life was an inspiration to all who knew him, especially to the many friends and patients whom he had loved and comforted during his extended career. He was upright in all his dealings, courageous in defense of his principles, earnest in all his efforts to relieve sickness and suffering and was loved and respected by people in all walks of life.

In his death, our Society has lost a beloved and valued member; the community one who was always in the front rank of every movement for the upbuilding and improvement of living conditions and for social and civic righteousness; his family a devoted and much loved husband and father.

In-as-much as God ordains, we bow in humble submission to Him, to whom we commend his sorrowing family.

The Holt County Medical Society.

W. S. WOOD, M.D.

J. C. OTTMAN, M.D.

F. E. HOGAN, M.D.

Committee.

FREDERICK W. WESSELER, M.D.

Dr. Frederick W. Wessler, St. Louis, 85 years old, died at his home, Sunday, February 6, of a heart attack.

Dr. Wessler, a Civil War veteran, was born in Dubois County, Indiana, December 28, 1841, the son of a Methodist minister. He received his preliminary education in the common schools of Indiana and Illinois, graduating in medicine from the St. Louis Medical College in 1866. For some time after receiving his diploma he served as a medical officer at the United States Marine Hospital in St. Louis and later attended soldiers of the U. S. Ordinance Corps at the Arsenal. From 1871 to 1889 he was consulting physician at the Alexian Brothers' Hospital and for many years was president of the United States Pension Examining Board. He was keenly interested in medical affairs and was appointed as delegate

to several state conventions. He was a member of the St. Louis Medical Society, a Fellow of the American Medical Association, and a member of the Blair Post No. 1 of the G. A. R. In 1872 he married Miss Sophia Splete, of St. Louis. He is survived by his widow and six children. Dr. Wessler was a delegate from the St. Louis Medical Society to the Annual Session of the American Medical Association held in Philadelphia in 1876 and has been a Fellow of the A. M. A. continuously since that time. The other delegate from St. Louis was Dr. John T. Hodgen. Dr. Wessler reported to the St. Louis Medical Society upon his return that the delegation from St. Louis representing the State of Missouri held very harmonious meetings and that all motions carried unanimously. In 1926 he was elected an Affiliate Fellow of the A. M. A. by the House of Delegates of that body at Dallas.

AUGUST H. SANTE, M.D.

Dr. August H. Sante, St. Louis, 62 years old, died Sunday, February 6, in his office, 1115 South Grand Avenue, from gunshot wounds inflicted by an unknown assailant for reasons unexplained. As yet, the police have not been able to locate the assailant.

Dr Sante was a member of the St. Louis Medical Society, a Fellow of the American Medical Association and a member of the Masonic Order. He was born in St. Louis, September 3, 1864. He received his preliminary education in St. Louis and graduated in medicine from Barnes Medical College, St. Louis, in 1892. For thirty five years he practiced medicine in St. Louis and for eight years served on the Mullanphy Estate Board. In June 1899, Dr. Sante married Laura Woodrow. He is survived by his widow, two daughters and one son, Dr. LeRoy Sante, X-ray physician at the St. Louis City Hospital.

STRICTURE OF FEMALE URETHRA

Winfield Scott Pugh, New York (*Journal A. M. A.*, Nov. 27, 1926), asserts that stricture of the urethra in women is common. The principal cause is a gonococcal infection. The pathologic changes are quite similar to those of the urethral stricture in the male. Its most common location is at the external meatus. The most common symptoms are frequency, urgency and dysuria. The diagnosis may always be established by the olivary tip or the bulbous bougie. Prognosis is good in soft infiltrations, while that of dense structures is doubtful. Treatment is by gentle dilation. Operative procedures should be avoided if possible.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1927

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Camden County Medical Society, December 31, 1926.

Holt County Medical Society, January 21, 1927.

Iron County Medical Society, March 4, 1927.

MISSOURI STATE MEDICAL - ASSOCIATION—70TH ANNUAL SESSION

Sedalia, May 2, 3, 4, 5, 1927

PRELIMINARY PROGRAM

Scientific Papers

Clarence S. Capell, Kansas City: Title to be announced.

A. J. Chalkley, Lexington: The General Practitioner and the Specialist.

M. B. Clopton, St. Louis: Title to be announced.

Albert N. Coughlin, St. Louis: Movable Cecum in Relation to Right Side Pain.

A. E. Hertzler, Kansas City: Title to be announced.

Jabez N. Jackson, Kansas City: Cancer of the Breast.

Henry J. McKenna, Kansas City: The Operative Goiter.

E. Lee Myers, St. Louis: Title to be announced.

Chas. H. Nielson, St. Louis: Title to be announced.

Archer O'Reilly, St. Louis: The Care of the Crippled Child.

M. P. Neal and Dudley A. Robnett, Columbia: Leucocytosis and its Relation to Appendicitis.

Clinton K. Smith, Kansas City: Significance of the Ureteral Kink: Experimental Clinical Study.

P. H. Swahlen, St. Louis: Title to be announced.

Albert S. Welch, Kansas City: Suppurative Pericarditis: With Motion Pictures.

Symposium on Blood Transfusion:

Leo J. Reilly, St. Louis: Medical Aspects.

Chas. A. Vosburgh, St. Louis: Surgical Aspects.

R. B. H. Gradwohl, St. Louis: Laboratory Aspects.

Symposium on Railway and Emergency Surgery:

C. E. Hyndman, St. Louis: The Treatment of Fractures.

M. L. Klinefelder, St. Louis: The Traumatic Spine.

Ernest Sachs, St. Louis: Fractures of the Skull.

W. T. Coughlin, St. Louis: Fracture of Upper and Lower Jaw.

Thos. G. Orr, Kansas City: Injuries to the Chest.

O. B. Zeinert, St. Louis: Injuries to the Abdomen.

Harvey S. McKay, St. Louis: Hernia in Its Relation to Industrial Surgery.

J. Ellis Jennings, St. Louis: Injuries to the Eye.

Robert Vinyard, St. Louis: Injuries to the Genito-Urinary Tract.

J. E. Castles, Kansas City: Traumatic Emergency Surgery.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

One hundred and twenty-sixth meeting, January 10, 1927

1. PRESENTATION OF CASES.

A. TWO CASES OF OSTEITIS FIBROSIS CYSTICA.—By DR. MYRON DAVIS.

Roentgenograms of two instances of benign bone cysts with pathological fractures were shown, one an adult and the other a child. The first case was a girl now 22 years old, who was originally admitted 9 years ago with a pathological fracture of the neck of the left femur. The treatment was immobilization without open operation. She has been under observation since and is still much incapacitated. The original X-ray films were shown with the cyst outlined at the point of fracture. Recent films showed a second cyst in the shaft of the same bone. In extensive roentgenographic skeletal studies another cyst was found in one of the metatarsal bones.

The second case, a boy 8 years of age, had a pathological fracture of the humerus at the site of a bone cyst. The X-rays of this lesion were demonstrated with typical cortical rarefaction. Treatment by immobilization is being used in this case also.

DISCUSSION

Dr. J. Albert Key mentioned the general disposition to consider bone cysts as relatively unimportant. However, the first patient mentioned has a 3 inch shortening and an almost complete disability which will probably be permanent. In the second, the cyst should be excised if healing does not progress satisfactorily.

In some recently reported cases of this disease streptococcus viridans has been isolated. In view of the development of several cysts in one of the cases shown here, the possibility of such an infectious origin should be kept in mind and such organisms looked for in the second case if an operation becomes necessary.

2. CYSTOMETRIC BLADDER PRESSURE DETERMINATIONS.—By DR. D. K. ROSE.

All previous attempts to determine the action of the urinary bladder wall have been made by measuring the intracystic pressure with a constant amount of fluid within the organ. The cystometer makes possible the measuring of the changing intracystic pressure in mm. of mercury as the bladder fills, i. e., from the first cc. to full capacity. The difference in the two methods is great as the bladder is an organ of constantly changing capacity and pressure. The principle used is based upon bladder innervation as follows: (1) The sympathetics (from 2d dorsal to 3d lumbar) are considered as the nerves of bladder filling in that they relax the wall and contract the internal sphincter. (2) The parasympathetics (from 3d and 4th sacrals) are considered as the nerves of bladder emptying in that they contract the bladder wall and relax the sphincter. (3) The pudic nerve which innervates muscles whose partial action is to depress the internal sphincter upon voiding. Further, stimulation of the pudic nerve causes contraction of the posterior urethra.

As the bladder is filled a curve between inflowing cc. of fluid and mounting mm. of mercury,—intracystic pressure,—is charted. Destruction or irritation of the sympathetics, parasympathetics, or

lower spinal nerves may be easily interpreted from these curves and furnish valuable data in diagnosing spinal cord lesions. Also the status of the bladder musculature may be determined, whether normal or undergoing compensation or decompensation. Such information is of daily clinical value in urology.

The method has also been of great interest in pharmacological and physiological study of the bladder.

Selected illustrative charts showing the results of cystometric study of normal and pathological bladders were demonstrated.

DISCUSSION

Dr. Rogers Deakin mentioned briefly the studies being conducted to show the influence of certain drugs on animal's bladders as evidenced by the cystometric curve. Pilocarpin results in a curve such as could be expected from a bladder in which the parasympathetics are in predominance, while with atropin the reverse is true and the curve is that of a bladder under sympathetic control. Action of equipment and of ergotamine has not been completely worked out as yet.

Dr. Sidney Schwab asked whether the introduction of the catheter caused a desire to void and also whether the concentration of the urine influenced this desire.

Dr. D. K. Rose answered that apparently the desire to void is caused chiefly by pressure of fluid on the trigonal area.

Dr. S. W. Ranson discussed the question of whether the bladder epithelium is sensitive to stimuli or contains sensory nerve endings. He thought it probable that the sensory endings in the submucosa not only in the trigonal area but all over the bladder would be stimulated by the increased intravesical pressure. He suggested the possibility of studying the sensibility of the bladder to heat, cold, etc., by the cystometer.

3. A COMPARISON OF 10,000 WASSERMANN AND KAHN TESTS RUN IN PARALLEL.—By DR. LAWRENCE D. THOMPSON.

In a series of 10,000 tests run in parallel by the Department of Internal Medicine, there was a complete quantitative agreement in 76.22 per cent. of the cases. In 17.23 per cent. of cases there was a qualitative agreement but a quantitative difference, thus making a total qualitative agreement of 93.45 per cent. A complete discrepancy occurred in 6.53 per cent. of cases with 3.3 per cent. showing a positive Kahn with a negative Wassermann and 3.2 per cent. a negative Kahn with a positive Wassermann. An analysis of the 6.53 per cent. showing a complete discrepancy indicated that the Kahn was somewhat more specific than the Wassermann and that more false positives occurred with the Wassermann test.

DISCUSSION

Dr. Jean Cooke expressed the appreciation of the Society for Dr. Thompson's laborious analysis of the correlation between the two tests, and was gratified at the extremely close agreement reported of tests done independently on identical serums by the Barnes and St. Louis Children's Hospital laboratories. Both tests have been carried out routinely in the Children's Hospital for some years and a recent analysis of 8,000 tests shows that the Kahn test is apparently somewhat more delicate than the Wassermann reaction. The use of both tests to-

gether, however, gave more information than that obtained from either done alone, the tests acting as a check on each other. In cases under treatment, the difference in sensitivity of the Wassermann and Kahn tests also gave a means of estimating the effect of therapy on decreasing the strength of the reacting substances in the blood. While some workers believe that the Wassermann test can be safely displaced by the Kahn reaction, there are many who think that this is not warranted and that the newer reaction has its greatest value as an adjunct to the older test.

Dr. Harry Alexander was of the opinion that after experience accumulates in the use of the Kahn test we will be more ready to accept its results as sufficiently informative for clinical purposes, even though we may realize that a small percentage of syphilitics may have negative reactions. Both tests are valuable only if both are used and interpreted.

Dr. Lee D. Cady believed that in neurological syphilis the Kahn alone gives sufficient serological information and since the Wassermann becomes negative sooner than the Kahn test, the older test could safely be dispensed with.

Dr. Wm. J. Dieckmann had found on the obstetrical service practically the same correlation of the two tests as reported by Dr. Thompson. A very few patients had positive Wassermann reaction and negative Kahn reactions, and in a few the reverse had occurred.

Dr. A. B. Jones agreed that the Wassermann test was unnecessary in neurological cases if the Kahn test were performed.

Dr. Sidney I. Schwab thought that the Wassermann should not be discarded; although it may not be necessary in many cases of clinical syphilis, there are certain obscure cases in which all possible serological data are desirable. In these most clinicians prefer to know the result of the Wassermann since they are more familiar with its interpretation.

4. ENCEPHALITIS: A STUDY IN PROGRESSION OF SYMPTOMS.—By DRs. SIDNEY I. SCHWAB AND A. B. JONES.

A number of cases of epidemic encephalitis observed in the past few years were presented individually by means of lantern slides and descriptive protocols. The development of the characteristic Parkinsonian syndrome, retropulsion and propulsion, the typical attitudes, etc., were illustrated, and the various types of behavior and mental changes with their progress were described.

BOONE COUNTY MEDICAL SOCIETY

The meeting was called to order at 7:45 p. m. February 1, at the Boone County Hospital, Columbia, by the president, Dr. Lloyd Simpson. The minutes of the previous meeting were read and approved. The president appointed the following committees: Program, Drs. R. S. Battersby, D. A. Robnett and C. M. Sneed; Credentials, Drs. W. O. Fischer, J. E. Thornton and E. D. Baskett; Ethics, Drs. D. S. Conley, F. G. Nifong and M. P. Neal; Censors, Drs. D. G. Stine, A. R. McComas and H. B. Pryor.

A letter was read from Dr. E. J. Goodwin concerning a bill to amend the Medical Practice Act (House Bill No. 123 and Senate Bill No. 40). Drs. F. G. Nifong and G. L. Noyes explained the bill. Dr. Nifong moved that the Society pass on the bill favorably and that such action be communicated to our state senator and representative, and

to the Missouri State Medical Association. The motion was seconded by Dr. F. C. Suggett and unanimously carried.

Dr. Noyes reported concerning a bill before the House and Senate (House Bill No. 324 and Senate Bill No. 201) regarding surgical and medical treatment and hospital care of crippled children. Dr. Nifong moved that the Society go on record as approving this bill and that such action be communicated to our state senator and representative. The motion was seconded by Dr. Thornton and unanimously adopted.

Presentation of Cases

Dr. S. D. Smith presented three cases of endocarditis with a talk and demonstration of patients. A general discussion followed. The presentation of Dr. Robnett's case was postponed.

MEETING OF BOONE COUNTY HOSPITAL STAFF

The meeting was followed by a meeting of the Boone County Hospital Staff, Dr. F. G. Nifong presiding. The minutes of the previous meeting were read and approved. Hospital reports for January, 1927, were distributed. The clinic is gradually enlarging. The clinic report was read by Dr. Nifong.

Dr. D. A. Robnett reported a case of tetanus which was generally discussed.

A case of septicemia was reported by Dr. Lloyd Simpson. It was generally discussed.

A discussion of plans to bring all charity obstetrical patients into the hospital and facilities for caring for them closed the evening's program.

Adjournment at 11:30 p. m.

HUGH P. MUIR, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society held its regular meeting at the Snapp Hotel, Excelsior Springs, February 24, convening at six p. m. Thirty members and their wives were seated at the table for a characteristic Snapp Hotel dinner, and a happy group they were; men thatched with the conventional grey, mingled on exactly equal footing, with the sanguine witted personages of youthful vigor and wit. It was the Clay County Society, mind you.

At our scientific session, Dr. J. F. Grace reported his experience in a recent cesarean section. The doctor left out no detail in his recital of symptoms, diagnosis and treatment. Drs. J. E. Musgrave and C. H. Suddarth, connected with the case as consultants, led in the discussion.

Dr. E. H. Miller spoke feelingly in the interests of the mother in such terrible emergency, advising "birth control" if happily the patient came out of the first tragedy alive. Dr. Miller is always right.

Dr. S. D. Henry spoke of a remarkable case, three sections on the same patient who didn't seem to dread it. She would simply get into her vehicle, go direct to the hospital and have her section, then drive home with her baby when the affair was over.

Dr. J. J. Gaines read a report of a case on malignant endocarditis, final thrombosis, embolism and death. He gave a detailed report of postmortem findings; a rare case, yet one we might meet up with at any hour. A lengthy discussion followed, all agreeing as to the futility of any known treatment at this time. Drs. Musgrave and Suddarth, consultants in the case and who performed the autopsy, made interesting comment.

Drs. W. A. Myers and J. L. Myers, Kansas City, who were welcome visitors also discussed the case, the patient having come under their care prior to his

visit to Excelsior Springs. A striking feature of the heart case was its baffling all known methods in diagnosis, the heart murmur being the only constant symptom. Outside of this, over a half dozen diseases were suspected.

Dr. W. J. James gave a splendid talk on "Tulane University," he having recently taken postgraduate work in the southern institution. He emphasized the advantage of the south in climate; a course there in winter permits escape from frigid temperatures of the north. Dr. James' talk received a round of applause.

The Women's Auxiliary was presided over by Mrs. J. H. Rothwell, vice president, in the enforced absence of Mrs. F. H. Matthews, president.

Mrs. W. H. Goodson read the leading paper of the evening, I am told, which was fully discussed. It is wonderful how these women enjoy the medical society meetings—and the interest manifested! Think of what we men have been missing for the last half century, attending musty old conclaves where everything was drier than shucks. We now know better; friend wife has come to stay.

Our interest has never been better.

J. J. GAINES, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The Jasper County Medical Society met in regular session, January 11, 1927, with past president Dr. A. M. Gregg in the chair in the absence of president-elect, Dr. L. C. Chenoweth.

Members present: Gregg, A. M.; Cummings, C. C.; Hatcher, E. D.; Stormont, R. M.; Waggoner, W. W.; Neff, R. L.; Clark, A. B.; Sims, J. L.; Miller, S. H.; Sims, G. K.; Alberty, O. L.

Approval of the minutes of the last meeting was made by the society.

Case Reports

Dr. Hatcher, Carthage, related the findings in a case in which he had made a tentative diagnosis of osteomyelitis, but was at a loss to decide whether it might be simply an acute affair or of the tuberculous type.

Dr. Neff, Joplin, presented the findings of a case quite similar, which he had treated surgically with good results, but a secondary focus appeared in the ilium at a later date.

Dr. Clark, Joplin, gave the findings or rather the subjective symptoms of the case of a young man of twenty-four years of age, viz., eructation of gas with no fever, pain, vomiting, or other gastro-intestinal disturbance. X-ray showed the presence of a duodenal ulcer.

Dr. Cummings, Joplin, presented a motion (seconded by Dr. Clark) that the secretary write the State Board of Health asking for a statement which would give a per cent. of cancer death rate per population in this county as compared with that of other communities of a like population.

The retiring president, in his address, made some definitely constructive criticisms relative to the work of the past year. While he showed that he heartily appreciated the support which was given him, he expressed himself as having been really discouraged and humiliated by the lack of support of the members as a whole. He eulogized the president-elect and expressed a desire as well as a hope that it would, during the present year, surpass what it had ever achieved in any single year in the past, and exhorted those present to work to that end.

Some reference was made by Dr. Gregg that the week of January 17, 1927, was to be National Cancer Week in the United States, a period in

which was being made an attempt to put on an educational program, one designed to interest as well as to assist, the lay in recognizing any unusual growth and encourage them to seek medical advice in the presence of these lumps or growths.

Meeting of January 18, 1927

The Jasper County Medical Society met in regular session, January 18, with president, Dr. L. C. Chenoweth, in the chair. Since this was National Cancer Week, regular business was postponed until another meeting in order that Dr. Edwin C. Ernst, St. Louis, who was brought here by the local chairman, Dr. A. M. Gregg, might have the evening to read a paper in the interest of cancer, especially directing attention to its early recognition and treatment.

Fundamentally, he said this national program was to create publicity, especially among the laity and to arouse their interest as to the functions of the cancer societies throughout the country, which was primarily to educate the public and to get it to understand that the family doctors were or should be acting in the capacity of the public health officers of the communities in which they resided.

In referring to the incidence of cancer he said that one individual in ten, above the age of forty, succumbed to its ravages and that the problem would increase beyond control unless it was recognized and treated in its incipency. While the etiology of cancer is, as yet, unknown, the essayist referred to the fact that scores of men are devoting their time, energies and funds in research, and that while there is still much to be learned relative to this phase of morbid anatomy, it is definitely known that the condition can be eradicated if it is recognized and treated sufficiently early. He lauded the research work of Gye and Bernard, of London, but said that they had not controlled their experiments sufficiently to prove the accuracy of their work.

Dr. Ernst pointed out that cancer was neither communicable nor hereditary, but that it may be familial and he stressed, particularly, early attention to any lump or growth that may show itself in any part of the body. He defined cancer in a rather unique way as, "a condition in which there was a too rapid growth of cells, bolshevistic in their activity, in any part of the body."

In his own way, and by means of schematic drawings he states that he is of the opinion cancer is not caused by any particular germ, but that if it is caused by any germ such condition is brought about, in all probability, by trauma plus the added insult and irritation caused by the presence of the germ. It was under this theory that he discards or disregards the theory of Blumenthal. The lecturer pointed out how cancer may be produced in animals by blocking the blood supply to a part thereby traumatizing the tissues and vitamin B contributing to the production of cancer, and it is upon this hypothesis that he bases the assumption that the germ theory does not hold.

The summation of Dr. Ernst's paper was that, in order to eradicate cancer, it must be seen, recognized and treated early either by surgery, X-ray or radium.

Following a few remarks made by the president, the meeting was dismissed without a motion for adjournment.

Meeting of January 25, 1927

The Jasper County Medical Society met in

regular session at the Joplin Y. M. C. A. at eight p. m., January 25, with the president, Dr. L. C. Chenoweth, in the chair and the following members present: Drs. Clinton, L. B.; Gray, J. M.; Harutun, M. B.; James, R. M.; Miller, S. H.; McIntire, E. J.; Moody, E. E.; Myers, R. E.; Neff, R. L.; Powers, H. C., and Sims, G. K. The minutes of January 11 and 18 were read and approved. A letter was read from Dr. E. C. Ernst, St. Louis.

A motion was made by Dr. Clinton, seconded by Dr. McIntire, that the president be empowered to examine and purchase a file or card-index system whereby our books and records may be kept in a satisfactory manner.

Another motion was passed to the effect that space should be bought from the Joplin and Carthage papers (for one issue) and an article prepared by President Chenoweth for publication therein, informative to the public relative to the \$100,000 standing offer for a cure for cancer, explaining further, that they should not be misled by such articles as appeared in recent issues of the Joplin Globe and Herald.

The subject of preparation of material for a publicity campaign, such as has been successfully carried out in many other American cities, was discussed and a motion passed to the effect that Drs. L. B. Clinton and G. K. Sims be instructed to secure all the information possible relative to such campaigns and to report thereon at the next meeting of the Society.

Case Reports

Dr. Clinton exhibited several roentgenograms wherein was revealed a shadow of the anterior tuberosity of the first cervical vertebra, a finding which has aroused considerable comment among roentgenists, the clearing up of this particular finding being a factor contributing greatly to the benefit of the patient since it might prevent a possible attempt on the part of an operator to remove what he suspected to be a calcified gland.

Dr. Moody briefly referred to a case of a patient of three and one-half years of age whose liver and spleen were definitely enlarged, tar colored stools and a blood picture as follows: R. B. C., 900,000; W. B. C., 14,000, and four hours later 22,000 with 95 per cent. small monos; Hb. 15 per cent. There was some adenopathy. Diagnosed as pseudoleukemic anemia. Death occurred in twenty four hours after he saw the case.

Dr. Moody, in referring to his experience in scarlet fever immunization, said that he preferred Lilly's product because with one injection of one c.c. it was effective in one month and was potent for one to two years. He said he had noticed, however, that a slight rash occurred in about twenty four hours following its administration, though there was no itching or other bad effects or further systemic reaction accompanying it.

Drs. James and Powers reviewed a case of eclampsia in which they had used sixty c.c. of a twenty five per cent. solution of magnesium sulphate intravenously with brilliant results.

Dr. Myers pointed out that he had used glucose intravenously followed by intramuscular injection of insulin (one unit for each two grams of glucose) in a case of uremia with good results. These two cases elicited an interesting and instructive discussion on the part of all of those attending.

Each member entered into the discussion of case reports.

A motion for adjournment carried.

Meeting of February 1, 1927

The Jasper County Medical Society met in regular session at the Joplin Y. M. C. A. at 8 p. m., February 1, with the following members present: Drs. Alberty, O. L.; Barson, J. W.; Chenoweth, L. C.; Clinton, L. B.; Cummings, C. C.; Grantham, S. A.; Gregg, A. M.; Hatcher, E. D.; James, R. M.; LaForce, H. A.; Miller, S. H.; McIntire, E. J.; Moody, E. E.; Neff, R. L.; Reid, C. T.; Sims, G. K.; Sims, J. L.

A statement for \$21 for printing was read, approved and ordered paid.

A copy of the bill amending the Medical Practice Act (House Bill No. 123 and Senate Bill 40) was brought to the attention of the Society, passed upon and approved and the secretary instructed to notify our representative and senator of the Society's action.

Case Reports

Drs. J. L. Sims and E. E. Moody reported the case of a child 2½ years of age who, when seen at noon was having tonic and clonic convulsions rapidly with only a few minutes between spasms. These attacks continued until eleven o'clock that evening when the patient died. A few weeks previous to this, Dr. Moody reported a four plus blood and spinal fluid Wassermann on the patient and its twin. (The mother showed a specific retinitis.) A gumma was discovered on the soft palate of the patient under discussion which cleared up promptly under antiluetic treatment. Cause of death in the case was diagnosed, syphilitic meningitis.

Dr. LaForce reported the case of a boy 8 years of age with a temperature of 103.5 whose tonsils were enlarged and red, the eyes injected, some lachrymation, a few spots on the buccal mucosa. There were some small, deep red areas of papules on the body. A few days later a decided papular eruption was observed. Dr. LaForce reports this case diagnosed as measles though he thought the findings at first were decidedly indefinite and difficult for one to diagnose.

Dr. Grantham reported the case of a friend of his who was anxious to adopt a child as near physically perfect as could be had. The adoption was made through a physician brother. At six years of age the child had an attack of tuberculous spondylitis. It later exhibited a spastic paralysis and had to be supported in a body frame. He could walk only with difficulty and in only a short time could not walk at all. A skiagraph showed a decided kyphosis with an abscessed fifth, sixth and seventh dorsal spine. Dr. Grantham did his particular operation upon this cervical spine and in six months the patient was able to be removed from the body brace and could walk. Three months later he was able to run and play as other children play. The report of this case evoked unusual comment and commendation relative to Dr. Grantham's particular type of arthroplasty.

Dr. Moody reported the death of a child of 11 years of age following a laparotomy which showed a generalized metastatic sarcomatosis. The point in presenting this case report was to show how frequently physicians spend too little time in making a physical examination on their patients, in that this girl had been seen and no physical examination whatever had been made upon the patient.

Dr. Clinton read a paper on "Quartz Light Therapy in Pediatrics," which he had read before the convention of physiotherapists in St. Louis in

January. It showed conclusively that he had done no small amount of research. Also he pointed out very clearly that he had treated various conditions in children, such as bronchitis, influenza, tuberculosis (pulmonary and glandular), pneumonia of the various types, pertussis, rickets, chorea, asthma and many of the dermatites. This paper called forth discussion both for and against quartz light therapy, but it was the consensus of opinion and it was pointed out that the quartz light should be used as a definite, component part in general medical work.

Meeting of February 8

The Jasper County Medical Society met in regular session at the Y. M. C. A. at eight p. m. with the following members present: Drs. J. W. Barson, L. C. Chenoweth, S. A. Grantham, E. D. James, R. M. James, S. H. Miller, H. C. Powers, G. K. Sims, J. L. Sims, A. R. Snyder, R. A. Thornton and J. I. Tyree.

Dr. J. I. Tyree read a paper on "The Importance of Treating Gastric Hyperacidity Following the Removal of Focal Infection." He cited three cases whose symptoms were suggestive of hyperacidity or ulcers with hyperacidity. In one case, the removal of the gallbladder gave relief for about two months when the gastric symptoms recurred. The patient was placed upon routine Sippy treatment for fourteen months which gave relief and has continued without any recurrence for two years. The second patient, who was placed upon the Sippy treatment for six months, developed pain in the region of his appendix. An appendectomy followed which gave relief for a few months when the old gastric symptoms returned. He was again placed upon the Sippy routine for eight months and for the past eighteen months has had no recurrence. In the case of the third patient, her symptoms dated back for twenty years. Following the removal of her teeth, the gastric symptoms improved for about two months, then recurred, after which she was placed upon the Sippy routine for thirteen months which gave a relief from the symptoms and has lasted for three years with only an occasional attack of hyperacidity of a few days' duration.

The essayist has divided gastric conditions into three classes: (1) Focal infection with acute or temporary hyperacidity. (2) Focal infection with chronic gastric hyperacidity. (3) Focal infection with chronic gastric hyperacidity and gastric ulcer. It was pointed out in this paper that no pains should be spared in making gastric analysis before an attempt is made at diagnosis, for we may have a patient which may be properly and promptly cured by medication even in the absence of surgery. It was furthermore pointed out that it is of paramount importance to keep the patient alkalinized following the removal of focal infections whether the focus be teeth, tonsils or gastric ulcer, because of the fact that the body fluids have been dealkalinized.

It was concluded that gastric hyperacidity may be a symptom of focal infections or a symptom of abnormal acid glands, but that removing the focal infection does not stop the acid glands from hypersecreting.

A motion was made and seconded that Drs. L. C. Chenoweth and G. K. Sims be appointed as a committee to arrange for a dinner to be served at 6:30 p. m. on February 15, after which would follow the papers to be presented by Duncan and his co-laborers.

Meeting of February 15, 1927

The Jasper County Medical Society met in regular session February 15, at Broadlawn where dinner was served at seven o'clock. At eight o'clock President L. C. Chenoweth announced that regular business would be tabled until the next meeting of the Society and that the evening would be devoted to papers on "Clinical and Pathological Findings in the Nephritides" which would be read by Drs. Frank J. Hall, Robert Kortischoner and Ralph E. Duncan, Kansas City.

Members present: Drs. O. L. Alberty, C. M. Balsley, E. J. Burch, A. B. Clark, M. O. Coombs, W. E. Craig, C. C. Cummings, L. C. Chenoweth, L. B. Clinton, H. W. Dickerson, S. A. Grantham, M. B. Harutun, E. D. Hatcher, B. M. Henry, E. R. Hornback, U. G. Hoshaw, R. M. James, E. D. James, R. C. Lowdermilk, H. D. McGaughey, E. J. McIntire, R. E. Myers, S. H. Miller, E. E. Moody, R. L. Neff, W. L. Post, H. C. Powers, C. T. Reid, J. L. Sims, G. K. Sims, A. R. Snyder, R. M. Stormont, R. A. Thornton.

Guests present: Drs. Frank J. Hall, Ralph E. Duncan, Robert Kortischoner, Kansas City; Drs. Hill, Kaemmerling, Loveland, Montgomery, Joplin; Drs. Boswell, McKinney, Ieff, Baxter Springs, Kan.; Dr. Sibley, Cardin, Oklahoma; Dr. Campbell, Vinita, Oklahoma; Drs. Railston, DeArnold, Miami, Oklahoma; Dr. Wilbur, Granby, Mo.; Drs. O. Sharp, E. Sharp, Gibson, Rush, Jenkins, McKelvey, Newman, Marchbanks, Wells, Webster, Pittsburg, Kan.; Drs. Hewett, Taylor, Carthage, Mo.; Drs. Manes, Lanson, Roseberg, Neosho, Mo.

Dr. Hall confined his discussion to the pathological physiology of kidney diseases, illustrating and explaining his subject matter from a colloidal chemistry basis. His exposition was practical and well prepared for assimilation. Dr. Kortischoner, with the aid of pathological specimens, unfolded in a logical manner a working classification of kidney diseases. Dr. Duncan connected up the pathological changes in tissue and physiology with remarks on the urine and blood chemistry changes.

The meeting was well attended by members and guests from nearby counties in the district. Dr. L. C. Chenoweth, president, found he had a wide awake audience full of enthusiasm. He made guest and member feel acquainted and started off that interesting and instructive game in which the speakers are the target for cross-examination.

Meeting of February 22, 1927

The Jasper County Medical Society met in regular session February 22, at the Joplin Y. M. C. A. at eight o'clock. Members present: Drs. L. C. Chenoweth, L. B. Clinton, C. C. Cummings, H. W. Dickerson, E. D. Hatcher, R. C. Lowdermilk, S. H. Miller, E. E. Moody, R. E. Myers, C. T. Reid, G. K. Sims, R. M. Stormont, R. A. Thornton.

Guests present: Dr. Baxter, Columbus, Kansas; Dr. Craig, Webb City, Missouri; Dr. McCellan, Galena, Kansas.

Communications were read and passed upon.

A proposition by the representative of a corporation for the erection of a Joplin Medical Arts building for physicians and surgeons and allied professions was presented by President Chenoweth for discussion. The matter was tabled on account of the lack of a sufficient representation of the members of the society.

A detailed discussion relative to the Joplin Globe's editorial of February 20, 1927, in regard to the proposition of night calls was entered into by practically all those present. A motion was made and seconded to the effect that the president appoint a committee

to prepare material in answer to the editorial, which material should be presented to the Society for its consideration at its next meeting and, later, for its publication in the editorial columns of the Joplin Globe and Herald.

Dr. Ellsworth E. Moody presented a paper in which he gave a detailed resume of the recent literature on hereditary syphilis. The paper was both interesting and instructive and the discussion which followed brought out some details which were definitely enlightening.

A motion for adjournment carried.

GEORGE KIRBY SIMS, M.D., Secretary.

JEFFERSON COUNTY MEDICAL SOCIETY

A call meeting of Jefferson County Medical Society was held at Festus, Dec. 14, 1926, President J. W. Pickel in the chair. The minutes of the previous meeting were read and approved.

The proposed amendment to the Medical Practice Act was read by the secretary. Motion was made, seconded and carried to approve the amendment and to notify our representative and senator of our action.

The members discussed the need of a hospital in our county and instructed the president to appoint a committee of three to investigate the way county hospitals are secured and report at the next meeting.

Officers elected for 1927 were: President, J. W. Pickel, Barnhardt; vice president, C. E. Fallett, DeSoto; secretary and treasurer, N. W. Jarvis, Festus; delegate to the State Convention, N. W. Jarvis, Festus; alternate, Harry Yoskit, Festus.

Meeting adjourned subject to call of the president.

N. W. JARVIS, M.D., Secretary.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY

The Lawrence-Stone County Medical Society met at Aurora, December 7, 1926. The meeting was called to order at 1:30 p. m. by the president, Dr. J. W. Smith. Members present: Drs. W. J. Bryan, W. N. Deatherage, P. A. Holmes, F. W. Lester, T. D. Miller, N. K. Pope, C. W. Shelton, L. St. Clair Shumate, F. S. Stevenson, T. T. O'Dell and R. W. Smart. Visitors: Drs. T. O. Klingner, Councilor of the Twenty-Eighth District, G. W. Hogeboom and E. M. Fessenden, Springfield.

The following officers were elected for 1927: President, P. A. Holmes, Chesapeake; vice president, L. St. Clair Shumate, Reed Spring; secretary-treasurer, T. T. O'Dell; delegate, J. W. Smith; alternate, H. L. Kerr; censor, C. W. Shelton.

Dr. Klingner presented a paper on "Chronic Sinusitis," stressing the importance of the proper operative procedure to procure the best drainage.

Dr. Hogeboom read a paper on "Prostatectomy," giving the diagnostic indications for the operation and stressing the importance of the pre-operative preparation, especially the forcing of fluid by mouth for kidney function and careful postoperative care for best results. He advised the two stage operation for poor risks, the one stage procedure to be undertaken for the best risks only.

Dr. Miller reported a case of wound of the forearm as being unusual from the standpoint of hemorrhage; also a case of extensive albumen with edema in a patient who was eight months pregnant and no improvement under the usual methods of

treatment. Those discussing the case advised inducing labor without further delay.

Dr. Shumate reported a case of high blood pressure with albuminuria in which autocondensation seemed to do good. The tension remained lower as albuminuria cleared up.

Dr. Smith reported a case of hydatid tumors, giving diagnostic points and care of such cases.

Drs. Hogeboom, Fessenden and Klingner were made honorary members.

T. T. O'DELL, M.D., Secretary.

NODAWAY COUNTY MEDICAL SOCIETY

The Nodaway County Medical Society held its regular meeting February 11, 1927, at the County Health Office, Maryville, Missouri. Members present: Drs. F. C. Wallis, L. E. Dean, C. V. Martin, W. M. Wallis, Jr., W. M. Wallis, Sr., C. T. Bell, H. S. Maxwell and H. S. Dowell.

Drs. A. J. Welch and Albert S. Welch, Kansas City, were the speakers for the evening. Dr. A. J. Welch spoke on "Cancer Statistics," and Dr. Albert S. Welch spoke on "Pernicious Anemia." These subjects were demonstrated by means of moving picture films.

The Society expressed themselves as being well entertained by Drs. Welch and Welch.

H. S. DOWELL, M. D., Secretary.

RANDOLPH COUNTY MEDICAL SOCIETY

The Randolph County Medical Society is starting off with fine prospects. The program committee has arranged the meetings to be given in sections with four members in each section, the first two named to furnish the scientific papers and the others to lead the discussions.

The regular monthly meeting was held at the Chamber of Commerce rooms in Moberly, Tuesday evening, February 8. The surgical section had charge of the program.

Dr. R. D. Streeter, of Woodland Hospital, talked on "Some of my experiences in cholecystography," demonstrating his work with X-ray pictures of interesting note.

Dr. F. L. McCormick read a paper on "Anemia From the Surgical Standpoint," laying particular stress on blood transfusion.

Invitations were sent to a number of nearby doctors but the condition of the roads and weather prevented many from coming. Several sent letters expressing their regret at not being able to attend.

Dr. A. B. Cramb, of Grimm Hospital, Kirksville, said in his remarks that as soon as he received the invitation he made up his mind to attend, even if he had to take the train, which he did. Dr. G. W. Hawkins, treasurer of the State Association and Dr. Wm. Fellows, Salisbury, were also visitors.

Fourteen of the local members were in attendance: Drs. D. A. Barnhart and R. G. Epperly, Huntsville; Drs. G. O. Cuppidge, E. W. Shradler, F. L. McCormick, Paul C. Davis, M. E. Leusley, S. T. Ragan, R. D. Streeter, J. Maddox, O. O. Ash, L. E. Huber, T. S. Fleming and C. H. Dixon, Moberly.

The social hour, with lunch, at the "Recreation," our new up-to-date Cafe, showed a fine feeling of fellowship.

C. H. DIXON, M.D., Secretary.

SCHUYLER COUNTY MEDICAL SOCIETY

The Schuyler County Medical Society met pursuant to a call by the president, Dr. J. H. Keller, in the office of Dr. J. B. Bridges, Downing, February 16, 1927. Members present were: Drs. J. H. Keller, A. J. Drake, H. E. Gerwig and J. B. Bridges. The minutes of the last meeting were read and approved. The treasurer reported a balance of \$18.50 in the treasury.

There were no papers read at this meeting but a number of cases were reported and various subjects discussed, the most important of which was House Bill No. 123 and Senate Bill No. 40, now before the State Legislature, amending the Medical Practice Act. This subject was discussed at length and on motion the members present voted unanimously in concurrence with the measure and the secretary was instructed to write our senator and representative asking and urging them to support it.

The following officers were elected to serve during the ensuing year: President, H. E. Gerwig, Downing; vice president, J. H. Keller, Lancaster; secretary-treasurer, J. B. Bridges, Downing; delegate, H. E. Gerwig, Downing; alternate, A. J. Drake, Lancaster.

J. B. BRIDGES, Secretary.

SCOTT COUNTY MEDICAL SOCIETY

The Scott County Medical Society met in the office of Dr. U. P. Haw, Benton, February 8, 1927, at two p. m. with the following members present: Drs. H. T. Blackledge, H. V. Ashley, A. J. E. Decker, H. M. Kendig, U. P. Haw and G. S. Cannon.

The officers elected for the ensuing year were: H. M. Kendig, Sikeston, president; H. V. Ashley, Illmo, vice president; G. S. Cannon, Fomfelt, secretary; U. P. Haw, Benton, delegate; H. T. Blackledge, Commerce, alternate.

The Medical Practice Bill now before the Legislature was endorsed and a resolution in regard to this bill ordered sent to our senator and representative.

A general discussion was had on the status of the medical profession and on various medical topics.

The next meeting will be held at Benton, April 5, at two p. m.

G. S. CANNON, M.D., Secretary.

STE. GENEVIEVE COUNTY MEDICAL SOCIETY

The Ste. Genevieve County Medical Society held its regular meeting February 9, 1927, with the president Dr. C. J. Clapsaddle in the chair. The minutes of the last meeting were read and approved.

Regular business having been disposed of, the application of Dr. M. Y. O'Brien, Bloomsdale, was voted on and he was unanimously elected a member of our society.

The following resolution was offered by Dr. G. M. Rutledge and approved by all the members:

Resolved, That we, the members of the Ste. Genevieve County Medical Society, approve of the bill amending the Medical Practice Act (House Bill No. 123 and Senate Bill No. 40) as prepared by our legislature committee and of the secretary notifying our representative and senator to that effect, asking their support of the bill when it comes up for passage.

No further business appearing, the Society adjourned until the second Wednesday in March.

R. W. LANNING, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The St. Louis County Medical Society met in the Directors' Room of the Webster Groves Trust Company, Webster Groves, February 9, 1927. The meeting was called to order by the president, Dr. H. N. Corley, at three p. m. The minutes of the January meeting were read and approved. The following members were present: Drs. J. H. Armstrong, J. H. Sutter, R. E. Gaston, E. O. Breckenridge, D. H. Hanson, J. A. Townsend, O. W. Koch, H. N. Corley and C. C. Irick. Visitors: Drs. O. J. Wilhelmi, Alphonse McMahon, J. R. Vaughan, E. A. Babler, F. Grogan, W. D. Webb and W. A. Smith.

The following papers were read and discussed by the members and visitors: "Urological Aids to the General Practitioner," Dr. O. J. Wilhelmi; "Heart Diseases in Hyperthyroidism," Dr. Alphonse McMahon; "Chronic Endocervicitis," Dr. J. R. Vaughan.

The Society voted to support House Bill No. 123 and Senate Bill No. 40 in the Fifty-Fourth General Assembly, and members were urged to notify their representatives and senators to support the passage of the bill.

Dr. J. A. Townsend reported on work he carried out during Cancer Week. This Society purchased a copy of "Essential Facts about Cancer" for each member. Circulars were widely distributed throughout the county, giving general information to the public on cancer.

A vote of thanks was given to Drs. Wilhelmi, McMahon and Vaughan for their excellent papers.

CARL C. IRICK, M.D., Secretary.

WRIGHT-DOUGLAS COUNTY MEDICAL SOCIETY

The Wright-Douglas County Medical Society met at two p. m. Thursday, January 6, 1927, in the parlor of the Young Hotel at Mansfield, with the following members and visitors present: R. M. Norman, Ava; R. M. Rogers and J. A. Fuson, Mansfield; A. C. Ames, E. C. Wittwer and R. A. Ryan, Mountain Grove; U. J. Busiek, F. T. H'Doubler, Francis Camp and A. L. Anderson, Springfield.

The meeting was called to order by the president, Dr. Wittwer, and the minutes of the last meeting were read and approved.

Dr. Busiek read a paper on "Contagious Diseases," which was devoted especially to the more important facts concerning diphtheria, scarlet fever, measles and whooping cough.

Dr. H'Doubler read a paper on "Chest Surgery," in which he considered empyema, hemorrhage from wounds, artificial pneumothorax and some other conditions. This paper was discussed by Dr. Anderson, especially as it referred to the subject of artificial pneumothorax for the treatment of tuberculosis.

Dr. Camp read a paper on "Nervous Symptoms in General Medicine," and the importance of understanding them.

A vote of thanks was extended to the visitors for their valuable papers which covered their subjects so well that none of the members felt able to add anything to them.

The regular date for election of officers having passed, that matter was next attended to with re-

sults as follows: President, R. M. Rogers, Mansfield; vice president, R. M. Norman, Ava; secretary-treasurer, A. C. Ames, Mountain Grove; delegate, E. C. Wittwer, Mountain Grove; alternate, R. M. Norman, Ava. Dr. L. T. Van Noy, Norwood, who was not present, was elected censor for three years.

The meeting adjourned at four p. m. to meet at Mountain Grove early in May.

A financial report showed \$51.53 on hand in the treasury, of which \$40.00 was on time deposit drawing interest.

A. C. AMES, M.D., Secretary.

ANNUAL MEETING OF THE MIDDLE SECTION AMERICAN LARYNGOLOGICAL RHINOLOGICAL AND OTOLOGICAL SOCIETY, INC.

The annual meeting of this Society was held at St. Louis, January 31. The program included the following papers and demonstrations:

Morning Session

General Assembly and Demonstration at the Central Institute for the Deaf, Dr. Max A. Goldstein.

Clinics and Demonstrations at Barnes Hospital:

A Simple Method of Introducing Lipiodol into the lungs—Exhibition of X-ray plates of the chest, Dr. J. J. Singer.

Displacement Irritations of Nasal Sinuses, Dr. Arthur W. Proetz.

Skin Grafting in Tracheal and Laryngeal Stenosis, Dr. M. F. Arbuckle.

St. Louis Children's Hospital:

Infantile Mastoiditis, Dr. H. W. Lyman.

Demonstration of Clinical Charts, Dr. A. M. Alden.

Anatomical Demonstration of Nasal Ganglion Injection, Dr. Greenfield Sluder.

Other Clinical Demonstrations to be scheduled as arranged.

Afternoon Session

Auditorium St. Louis Medical Society:

"O wad some power the giftie gie us,
To see oursels as ithers see us."

Ophthalmic Contacts with Otolaryngology, Dr. W. H. Luedde, St. Louis. By invitation.

Pediatric Aspects of Otolaryngology, Dr. W. McKim Marriott, St. Louis. By invitation.

Lung Suppurations, Dr. Evarts Graham, St. Louis. By invitation.

Nasal Manifestations of Allergy, Dr. Charles H. Eyermann. By invitation.

Dr. Vilray Blair will have an exhibit of plastic surgery.

Night Session

An Analysis of the Theories of Pitch and Intensity. Discriminations in the Basis of Middle and Inner Ear Mechanics, with demonstrations, Dr. A. G. Pohlman. By invitation.

WOMEN'S AUXILIARY

OFFICERS 1925-1926

President, Mrs. A. B. McGlothlan, St. Joseph.
 President-Elect, Mrs. W. M. Bickford, Marshall.
 Chairman of Organization, Mrs. Willard Bartlett, St. Louis.
 1st Vice President, Mrs. A. W. McAlester, Kansas City.
 2nd Vice President, Mrs. Archer O'Reilly, St. Louis.
 3rd Vice President, Mrs. M. P. Neal, Columbia.
 4th Vice President, Mrs. Wm. Spaulding, Poplar Bluff.
 Corresponding Secretary, Mrs. H. S. Conrad, St. Joseph.
 Recording Secretary, Mrs. M. A. Hanna, Kansas City.
 Treasurer, Mrs. C. T. Ryland, Lexington.
 Directors: Mrs. Guy L. Noyes, Columbia; Mrs. Leland Boogher, St. Louis; Mrs. Geo. H. Hoxie, Kansas City; Mrs. Frank Hinchey, St. Louis; Mrs. Walter Baumgarten, St. Louis; Mrs. M. P. Overholser, Harrisonville; Mrs. H. F. Parker, Warrensburg; Mrs. R. W. Berrey, Mexico; Mrs. J. G. Montgomery, Kansas City; Mrs. W. F. O'Malley, Webster Groves.

CAPE GIRARDEAU COUNTY AUXILIARY

The Cape Girardeau County Auxiliary is still in excellent working order. We are doing some good work in the rural schools this year. The county superintendent has co-operated with us at all times and has expressed his appreciation many times, of our work. He has divided the county into sections and in each section a community fair was held. Members of our auxiliary attended these fairs and talked to the teachers about our Health Poster Contest and Hygeia, and weighed and measured the children. The county chairman of the Parent Teacher Association accompanied us on several occasions and assisted in the work.

We weighed and measured about six hundred children and distributed about fifteen hundred health pamphlets, most of which discussed the nature and prevention of the three diseases mentioned in the "Seymour Plan of Disease Prevention."

We found it impossible to pay for subscriptions to Hygeia for the rural teachers as we have made a pledge of one thousand dollars to the new Southeast Missouri Hospital which is being built. Our pledge to the hospital is being paid on the deferred payment plan by which we have to raise two hundred dollars per year for five years, but that is quite an undertaking for us as only about twelve of our members are active.

The birth registration campaign in this section of the state is under the direction of Mrs. C. A. Vandivoort, district chairman of the Parent Teacher Association. Since Cape Girardeau is above the required 90 per cent. we thought it was not necessary to put on an intensive campaign here.

ANNA M. SEABAUGH,
 President.

GENTRY COUNTY AUXILIARY

The Gentry County Medical Society and the Women's Auxiliary were jointly entertained at the home of Dr. and Mrs. F. H. Rose, Albany, February 15. The two societies held separate

business meetings, then came together and discussed health problems.

Both societies are uniting their efforts to the advancement of preventive medicine in Gentry County. The tuberculin test for cows seemed to be of the greatest interest to all. We are hoping our county will soon take the forward step of enforcing this test.

Dr. and Mrs. Rose were delightful host and hostess. The luncheon was enjoyed by all and we were reminded by place cards and refreshments of St. Valentine's Day. Almost a full representation of both societies was present and we will long remember the pleasant evening.

The Auxiliary elected the following officers for the coming year: President, Mrs. W. S. Campbell, Albany; vice president, Mrs. J. A. Crockett, Stanberry; recording secretary, Mrs. J. N. Barger, Albany; corresponding secretary, Mrs. F. P. Stapleton, Albany; treasurer, Mrs. F. H. Rose, Albany.

MRS. W. T. MARTIN, Past President.

JACKSON COUNTY AUXILIARY

Meeting of November 16, 1926

The Women's Auxiliary to the Jackson County Medical Society held their annual meeting at the home of Mrs. W. W. Duke, November 16. After the regular business, reports were read by chairmen of committees, followed by the election of officers:

President, Mrs. Chas. C. Dennie; president-elect, Mrs. A. L. Skoog; first vice president, Mrs. Franklin Murphy; treasurer, Mrs. J. S. Lichtenberg; corresponding secretary, Mrs. Evan S. Connell; recording secretary, Mrs. J. V. Bell; directors for two years, Mrs. W. H. Schultz and Mrs. G. Wilse Robinson; directors for one year, Mrs. A. W. McAlister and Mrs. Harry Mather.

The meeting was well attended.

Meeting of January 7, 1927

The January meeting was held January 7, at the home of Mrs. Jabez N. Jackson.

After the business meeting, the annual card party was discussed and decided upon.

Dr. Edith Hale Swift gave a very interesting talk. Her subject was, "Of what concern to me are Social Hygiene activities." There was a very large attendance.

Meeting of February 4, 1927

The annual benefit bridge party was held at the Brookside Hotel, February 4. It proved very successful. The proceeds go into our treasury with the dues to take care of our running expenses which are kept at a minimum and to carry on the work for which we are organized—the educating of the lay public to the necessity for scientific public health control.

Meeting of December 10, 1926

The December meeting was held at the home of Mrs. Lindsay Milne, December 10. After the regular business was taken care of, a letter was read from the Secretary of the Jackson County Medical Society to the Auxiliary, asking us to cooperate with them in urging the city council to pass the proposed amendment relative to the disposition of dogs at the city pound. It was agreed that a letter be written to each member of the city council and signed by the board of di-

rectors, asking them not to let Kansas City close the door through which further knowledge of means for alleviation and cure of human suffering may come. The efforts of the medical society were successful.

Mrs. Norma Knight Jones reviewed Dr. Fred Peirce's book on "Child Psychology." It was very interesting and helpful. There was a large attendance.

The chairman of education reported that it had been voted to place "Hygeia" in all the rural schools of Jackson County. This splendid magazine has been sent to every teacher in rural Jackson County during the school term, one hundred and eleven in all. We also contributed \$200 to Dr. Curtis, State Director of Physical Education in the schools.

The Auxiliary has also taken an active part in the Lincoln and Lee campaign. The report was that the unit from the Auxiliary turned in the largest amount of any of the women's committees.

MRS. M. A. HANNA.

LAFAYETTE COUNTY AUXILIARY

The Women's Auxiliary to the Lafayette County Medical Society was organized in January, 1925. The meetings are held each month, alternately in the three largest towns, Lexington, Odessa and Higginsville, the same day as the Medical Society meeting.

We have followed closely the program suggested by the state association. This winter we have assisted in the nation wide campaign of immunization against smallpox, diphtheria and typhoid fever. Talks have been made before Women's Clubs, Parent Teachers Association and Home Maker's Clubs with the result that many mothers are taking their children to the family physician to immunize them against these diseases.

A campaign for "Hygeia" has been conducted. We hope to reach our quota of fifty.

Our policy is a new president each year as it adds interest. Mrs. J. Q. Cope, the ex-regent of the D. A. R., is our new president.

Once each summer a basket picnic for members and their husbands is held. A program is given first and is followed by a social evening. Recently we have begun holding our monthly meetings in the homes. Last month every part of the county was represented and nine members paid their dues, two being new members.

Our goal is a county unit. Last summer our Auxiliary assisted in organizing the Lafayette County Health Committee. This committee is trying to educate the people to the needs of this unit.

MRS. C. T. RYLAND,
Educational Secretary.

REPORT OF THE HYGEIA CAMPAIGN FOR 1926

A letter from the circulation manager of Hygeia states that the Missouri auxiliaries again hold first place among the state auxiliaries in the sale of Hygeia, Texas coming second and Pennsylvania third.

The total number of subscriptions ordered by the auxiliaries in Missouri in 1926 was 862 which is within 30 of doubling its count of 446 for 1925.

On comparing the county auxiliary reports it was found that Buchanan County, Missouri, again led in 1926 with 495 subscriptions; Dallas County, Texas, holds second place with 159 orders, while Fulton County, Georgia, has third place with 60 yearly subscriptions; Cass County, Missouri, has

a similar number but not all of these are yearly subscriptions; Gentry County, Missouri, has credit for 106 orders, but 101 of these are five-month subscriptions to teachers. If all of these subscriptions had been for a period of twelve months Gentry County would have held third place among the county auxiliaries in the United States.

ANNA F. MCGLOTHLAN,
National Chairman for Hygeia.

SPECIAL TRAIN TO WASHINGTON FOR MEETING OF AMERICAN MEDICAL ASSOCIATION

For the American Medical Association convention which will be held in Washington, D. C., May 16 to 20, 1927, the Baltimore and Ohio Railroad will provide an all steel special train leaving St. Louis 12:00 noon Sunday, May 15, arriving Washington 12:45 noon Monday, May 16.

This train will consist of club car, observation-library-lounge car, open section, compartment and drawing room, sleeping cars and dining car. National Limited service includes train secretary, valet, barber, maid, manicure and shower bath, telegraph and mail service, and a Filipino attendant will be stationed in the club car to serve you.

For those who will be unable to leave on special train, the Baltimore and Ohio have the following daily trains:

Leave St. Louis, 12:00 noon; arrive Washington, 12:45 noon.

Leave St. Louis, 9:30 p. m.; arrive Washington, 2:00 a. m.*

*Passengers may occupy sleeper in Washington terminal until 7:30 a. m.

The route follows the Potomac River and at Harpers Ferry crosses to the Maryland side and continues on to Washington, D. C.

Rates

The rate of one and one-half fares for the round trip, namely \$48.81, from St. Louis on the certificate plan has been authorized. Tickets will be on sale May 12 to 15, return limit May 24, 1927. (No extra fare from St. Louis on Baltimore and Ohio trains.) Side trip Washington to New York and return, \$16.28. Correspondingly reduced fares from other points.

Pullman Fares

St. Louis to Washington; lower berth, \$9.00; Upper berth, \$7.20; compartment, \$25.50; drawing room, \$31.50.

Dining Car Arrangements

Regular service will be provided for all meals enroute. There is a la carte and table d' hotel service with club breakfasts ranging in price from fifty cents to one dollar. An outstanding feature is the Baltimore and Ohio Special Dinner at \$1.25.

For Pullman reservations, or additional information, or if you desire a "guide to Washington," "Harpers Ferry" or "Picturesque Potomac" pamphlet, address Mr. J. G. Van Norsdall, assistant general passenger agent, Baltimore and Ohio Railroad, 435 Boatmen's Bank Building, St. Louis, Mo., or to Dr. E. J. Goodwin, Secretary, Missouri State Medical Association, 901 Missouri Building, St. Louis, Mo. Please make your Pullman reservations early so that satisfactory accommodations may be provided. A Baltimore and Ohio representative will accompany the train, looking after all details including return reservations.

CORRESPONDENCE

TISSUE DIAGNOSIS IN THE OPERATING ROOM

And Immediate Cover-slip Examinations of All Fluids and Pus

Baltimore, February 3, 1927.

To the Editor:

I will consider it a courtesy if you will publish this letter in your Journal, as I am anxious to come in correspondence with pathologists and surgeons interested in the immediate examination, by frozen section, of tissue in the operating room and the immediate cover-slip studies of smears from all fluids and pus.

Microscopic examination of stained frozen sections has been possible for more than a quarter of a century. The staining of unfixed frozen sections with polychrome methylene blue and other stains is a well-established procedure. In many operating rooms in university and other large and small surgical clinics, provisions for these immediate diagnostic studies have not only been available, but have been in practical use for years, while, unfortunately, on the other side, this diagnostic part of the operating room is conspicuous by its absence in many clinics.

Before 1915 it was rarely necessary for a surgeon well trained in gross pathology to need a frozen section to help him in diagnosis at the operating table. Since 1915, and especially since 1922, the public has become so enlightened that malignant disease formally easily recognized either clinically or in the gross, now appears in our operating rooms devoid of its easily recognized clinical and gross appearance and can only be properly discovered by an immediate frozen section. The majority of operating rooms are not equipped or prepared for this new diagnostic test.

The first essential part for this diagnosis is the technician—one to cut and stain the frozen section, or to make and stain the smear. The second is a pathologist trained to interpret it. It is possible for the surgeon to be all three in himself, and some young surgeons are so equipped. In others it is a dual combination—surgeon and pathologist in one, and the technician. More frequently it is three—operator, technician and pathologist. It makes little difference whether it is one, two or three individuals, providing each has the equipment and training for this most difficult diagnostic test.

In an address as chairman of the surgical section of the Southern Medical Association, I discussed biopsy, and this paper has been published in the Southern Medical Journal for January, 1927 (Vol. XX, page 18.) A reprint of this paper will be sent to anyone on request. The chief object of this letter is to come in contact with surgeons and pathologists who are sufficiently interested in this problem to discuss it either by correspondence, or by attending a meeting in the surgical pathological laboratory of Johns Hopkins Hospital, either the Monday before, or the Friday after the meeting of the American Medical Association in Washington.

Schools for technicians may have to be established in different sections of the country, and the surgical pathological laboratories of the medical schools and the larger surgical clinics should offer courses in this tissue diagnosis, so that surgeons may learn to become their own pathologists, or pathologists learn the particular needs of the surgeon in tissue diagnosis in the operating room.

It is quite true that when the majority of the public are fully enlightened, the surgeon will see lesions of the skin and oral cavity and the majority of subcutaneous tumors when they are so small that their complete excision is not only indicated, but possible without any mutilation. The chief danger here will be a surgical mistake—the incomplete removal of an apparently innocent tumor. There is no necessity here for biopsy. If a proper local excision is done, no matter what the microscope reveals, that local operation should be sufficient. But when lesions of the skin, oral cavity and soft parts are extensive and their complete radical removal mutilating, then there must be biopsy to establish the exact pathology.

In tumors of the breast and disease of bone, for years, the diagnosis could be made clinically, or from the gross appearances at exploration. But now in an increasing number of cases, the breast tumor must be explored, and the gross pathology of this earlier stage is not sufficiently differentiated to allow a positive diagnosis. Immediate frozen sections are essential to indicate when the complete operation should be done. The same is true of the earlier stages of lesions of bone. The X-rays no longer make a positive differentiation between many of the benign and malignant diseases, for example, sclerosing osteomyelitis and sclerosing osteosarcoma.

We must not only specialize in tissue diagnosis, but we must organize this department so it will function properly in as many operating rooms as possible in this country.

Then there is a final and most difficult question to consider. I doubt if it can be settled. What shall be done in those operating rooms in which there is no technician to make the sections and no one trained to interpret the microscopic picture? How can a piece be excised or a tumor removed, for example, from the breast, and this tissue sent to some laboratory for diagnosis without incurring the risk of the delay to the patient. I have discussed this point in my paper on biopsy.

JOSEPH COLT BLOODGOOD,
Surgical Pathological Laboratory,
Johns Hopkins Hospital.

SYPHILIS OF CERVIX

George Gellhorn, St. Louis (*Journal A. M. A.*, Nov. 27, 1926), is of the opinion that syphilis of the cervix occurs far more frequently than is generally assumed, and that it may exhibit manifestations in any of the three stages of the disease. Primary and secondary lesions, while sufficiently characteristic, are apt to be overlooked because they produce no symptoms. On the other hand, tertiary lesions which appear in the form of gummas or gummous ulcers give rise to bleeding and discharge, and resemble carcinoma to such an extent that many patients have erroneously been subjected to unnecessary and dangerous operations. In contradistinction to the usual protracted course of the disease, was the observation of "galloping" syphilis of the cervix in which the infection ran its entire course from the initial lesion to a fatal ending in less than a year. A number of interesting and important problems are intimately connected with the subject of syphilis of the cervix. These are: (a) the infectiousness of cervical secretions in syphilitic patients; (b) the possibility of dystocia from rigidity of the cervix caused by syphilitic lesions and (c) the transition of syphilis into cancer of the cervix.

BOOK REVIEWS

MATERIA MEDICA FOR NURSES. Compiled by Lavinia L. Dock, R. N. and Jennie C. Quimby, R. N. Eighth Edition. Rewritten and Revised according to the standard curriculum. G. P. Putnam's Sons. New York and London. Price \$2.25. 317 p.

This book gives the very simple fundamental facts for the beginner in nursing. W. C. G.

PRACTICAL SURGERY OF THE JOSEPH PRICE HOSPITAL. By James William Kennedy, M.D., F.A.C.S., Surgeon to the Joseph Price Hospital, Philadelphia, etc. Illustrated with 129 original half-tone plates. Some in colors. F. A. Davis Company, Publishers, Philadelphia. 1926. Price \$10.00.

This book, presenting the methods of the late Dr. Joseph Price, is interesting from a number of points of view, one especially is the enduring influence of the master on a particularly apt pupil. It shows also that old methods ably carried out are capable of producing good results after the caravan of progress seemingly has past. For instance, the silk ligature seems of the past but correctly applied is likely more efficient than the more rapidly applied kind of the modern surgeon. Few would agree with the wide indication the author accepts for hysterectomy. The patient seems to be forgotten in the pursuit of pathological lesions. Cofferdam drainage and the use of the Murphy button are still retained. Though some of the measures advocated seem of the past, the book makes interesting reading and justly causes one to wonder if we have progressed as much as we think, or if we have just changed one good method for another. No better method of taking stock of ourselves than the perusal of this book. To old students of Dr. Price the book should be doubly valuable. A. E. H.

THE TREATMENT OF THE ACUTE ABDOMEN. Operative and Post-Operative. By Zachary Cope, B.A., M.D., M.S. Lond., F.R.C.S. Eng., Senior Surgeon to Out-Patients, St. Mary's Hospital, Paddington, etc. Oxford University Press, American Branch, 35 W. 32nd Street, New York City, N. Y. Price \$3.50.

In his preface the author after declaring the purpose of his monograph and acknowledging the assistance rendered by his associates, devotes a paragraph to the defense of his use of the loose term "Acute Abdomen" in the title he has given his book. For many years we have been accustomed to expect a delightfully careful use of language in the books of English writers. It is not pleasing to find Mr. Cope's attitude in this regard departing from what we have come to consider the traditional one. Elsewhere his language is sufficiently precise; as for instance, when he uses the word "appendicectomy" instead of the common but erroneous "ap-pendectomy."

It is regrettable that the author has not included and emphasized somewhere in this book, or in its companion volume which preceded it, a consideration of the preparation for operation of patients suffering from acute surgical lesions of the abdominal organs, and also a discussion of those clinical characteristics which should impel the surgeon to withhold operation. These phases of this class of cases have an important bearing on the mortality rate and will bear a deal of discussion.

The selection and treatment of the subject matter is sane, explicit and lucid, and give to this volume its distinguishing merit and practical value.

The illustrations mostly diagrammatic with their concise legends are a valuable complement to the text. The author is to be congratulated upon the excellent manner in which his publisher has presented his work. R. D. I.

OBSTETRICS. By John S. Fairbairn, M.A., B.M., B.CH. (Oxon.); F.R.C.P. (Lond.); F.R.C.S. (Eng.) Obstetric Physician, St. Thomas's Hospital, etc. Oxford University Press. American Branch, 35 W. 32nd St., New York City. Price \$1.75.

The author, I think, has succeeded very well in fulfilling the purpose of the book, namely that of "giving a general survey on broad lines." He has covered the entire subject of obstetrics in some two hundred pages in a way that makes it a most interesting review, probably due to brevity and clearness. The chapter on the physiology of reproduction is the best part of the book next to the one on fundamentals in obstetrics. If all medical students would read this chapter after graduation they would realize the importance of obstetrics as a branch of medicine. "The interaction between the reproductive system and the other systems of the body and the intimate relation of obstetrics to medicine as a whole" cannot be emphasized too much. P. A. G.

PRINCIPLES OF DIAGNOSIS AND TREATMENT IN HEART AFFECTIONS. By Sir James Mackenzie, M.D., F.R.S., F.R.C.P., LL.D., Ab. and Ed., F.R.C.P.I. (Hon.) and James Orr, M.B., Ch.B. Physician to the St. Andrews Institute for Clinical Research. Third Edition. Oxford University Press. American Branch, 35 W. 32nd St., New York City. Price \$3.50.

The contents of this book were prepared as lectures to be delivered to the postgraduate students and workers at the cardiac department of the London Hospital and have the merits as well as the faults inherent in this mode of preparation. Written in Dr. MacKenzie's genial style, the book is easy reading and holds one's interest from cover to cover.

The book is full of eminently sane and charmingly expressed judgments that tempt the reviewer to quotation. One must suffice: "Children are very sensitive to distress provoked by cardiac inefficiency and will themselves abstain without being told, and one can usually recognize the degree of efficiency by asking the child if he likes running about with a hoop or running upstairs. When they say they like doing it and it gives rise to no distress, it may be safely assumed that, whatever the cause of the trouble, it has not impaired the heart's strength. There is probably no single instance where heart failure could be reasonably attributed to a child's voluntary exertions."

The book will be read with interest by the heart specialist and will prove a mine of useful information for the general practitioner. On the other hand, in spite of a useful index, it is quite definitely not a book of reference. Many important aspects of heart disease receive very scanty treatment, others none at all. Thus, only a little over three pages are devoted to paroxysmal tachycardia; none at all to the thyroid heart. The dosage of digitalis is too briefly discussed; the streptococcus viridins is not mentioned. But these are minor faults. Of its kind, the book is superlatively good. A. E. T.

DISEASES OF WOMEN. By Harry Sturgeon Crossen, M.D., F.A.C.S., Professor in Chief to the Barnes Hospital and the Washington University Dispensary, etc. Sixth edition, revised and enlarged, with nine hundred thirty-four engravings including one color plate. The C. V. Mosby Company, St. Louis. 1926. Price \$11.00.

This sixth edition of Dr. Crossen's text on gynecology cannot be recommended too highly for its completeness, clearness and explicitness. Especially is this noticeable in the therapeutic directions. No doubt is left as to just what measures to take.

The book has a wealth of fine illustrations used in demonstrating regional anatomy, malformations, pathologic conditions, methods of examination and technic of operative procedures. These assist very materially in making the text also a practical manual.

In the chapter on diagnostic methods, due consideration has been given the new method of visualization of the uterine cavity and fallopian tubes by X-ray of the injected organ with iodized oil, the use of X-ray in conjunction with pneumoperitoneum and the later developments in gas insufflation.

A note on the author's stand concerning advice on and treatment of uterine myoma will not be amiss here because it is so sound. Summarizing, he advises X-ray and radium radiation for all small fibroids as soon as diagnosed rather than await symptoms. Operative procedures are advised in the larger tumors. It is common practice to advise patients to await developments of symptoms before interference but the author feels that his experience directs him to the above conclusion due to the danger of degeneration, serious complications and lowered vitality which progress with postponement of treatment.

In the chapter on malignant diseases of the uterus, he makes a plea for early diagnosis of cancer emphasizing the importance of early biopsy. He overcomes the common objection to biopsy by the conclusion that massage and pressure of a malignant growth is much more conducive to metastasis than excision or curettage if the cautery is used to seal the wound.

Without question the book fulfills the aims and endeavors of the author of setting forth gynecological conditions and problems before the practitioner in such a way that a diagnosis can be arrived at and proper advice on treatment given in a logical and orderly manner.

P. A. G.

SHELL SHOCK AND ITS AFTERMATH. By Norman Fenton, Ph.D. Associate Professor of Psychology, Ohio University; Formerly at Base Hospital 117, A.E.F., and with The National Committee for Mental Hygiene. With an Introduction by Thomas W. Salmon, M.D., Professor of Psychiatry, Columbia University. Illustrated. The C. V. Mosby Company, St. Louis. 1926. Price \$3.00.

This is a small book or monograph which is entitled to a place on the shelves of any first class medical library. It is well written, has its material conveniently grouped, gives appropriate references and contains a good index.

Some critics would attack the title. In his preface, the writer starts out with "My interest in the problem of war neurosis (shell shock) goes back to early in 1917 when it was stimulated by the late Professor Elmer Ernest Southard, of Harvard University." In the text many references are made to war neurosis. The author frequently refers to the work of the brilliant Dr. E. E. Southard on shell shock appearing in 1920, with which he labored. It will be

recalled that the term "shell shock" was first used in the British army where during the earlier years of the World War it appeared frequently in the government reports. Later, the term was frowned upon especially in medical circles and more or less condemned in this country; however, the author indicates in his text that it appeals especially to the layman.

The work stands out as a valuable one, in that a great amount of carefully considered statistical material has been compiled. Dr. Fenton has reviewed the results of the various war neuroses, two years after the cessation of hostilities and again five years later. Compare this with some of the unnecessarily hasty statistical reports in the various fields of medical activities. Some surgeons, reporting results only a few weeks or months after operations, should consider the example of this work. The author refers to records bearing on this subject in the Spanish-American and Boer wars, where most of the neuropsychiatric cases were included under the insanities. Thus, there was an erroneous conception relative to the high recovery rate in their so called insanities.

Especially would the reviewer call attention to the report on comparative numbers of criminals. In the regular army of 1915 there was a much greater percentage of soldiers punished for various crimes, including desertion, than was found in the American Expeditionary Forces. Punishment in the latter group was ordered in less than one tenth of one per cent. This triumph was attributed to the careful neuropsychiatric examinations made at the time of entrance into service and subsequent similar examinations of these soldiers. He considers this a great achievement for military mental hygiene. It is believed all will agree with the author.

In one chapter our attention is called to the high percentage of recovery rates for the various disorders. Included in this may be mentioned anxiety neurosis, anticipation neurosis, gas neurosis, concussion syndrome, concussion neurosis, exhaustion neurosis, timorousness, effect syndrome, hysteria, neurasthenia, hypochondriasis and psychasthenia.

The final chapter on "The Nature of War Neurosis and its Aftermath" conveys to the reader a glowing resume of the results achieved with this class of patients abroad and on home soil. The large number of these cases in civil and military life with the tremendous amount of misery resulting is emphasized. The armistice did restore some patients and made many neurotic symptoms more responsive to treatment but had no effect on many others, especially the neurasthenic and psychasthenic groups.

A. L. S.

PROCTOLOGY, A MANUAL OF. By T. Chittenden Hill, Ph.B., M.D., F.A.C.S. Instructor in Proctology, Harvard Graduate School of Medicine, etc. Second Edition, Thoroughly Revised. Illustrated with 101 Engravings. Lea & Febiger. Philadelphia and New York. 1926. Price \$3.50.

This edition treats the more common diseases of the rectum, sigmoid and colon. It gives the technique and methods of treatment together with the instruments and formulas used. The illustrations are not profuse, but explanatory.

The etiology, diagnosis and treatment of each disease is taken up in a didactic manner. The final chapter on cancer of the rectum includes the steps in detail used by Dr. R. C. Coffey in the radical resection of the sigmoid and rectum.

This book is of value to the student and general practitioner.

J. G. M.

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E. J. GOODWIN, M.D., EDITOR
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ORIGINAL ARTICLES

X-RAY DEMONSTRATION OF COLONIC REACTION IN FOOD ALLERGY¹

REPORT OF CASE

CHARLES H. EYERMANN, M.D.

ST. LOUIS

It is a matter of common knowledge that some foods invariably produce gastro-intestinal symptoms when eaten by certain individuals, whereas the same foods are innocuous when eaten by others. Such foods as shell fish and berries are well known as being the causative agents for these symptoms. It is, perhaps, not so generally recognized that such common foods as eggs and milk have also been known to produce gastro-intestinal symptoms in susceptible individuals. As early as 1881 Johnathan Hutchinson¹ described cases with vomiting and a sense of sinking and abdominal distress, sometimes of such severity as to lead to the suspicion of poison. This was due, he believed, to the ingestion of eggs, as the symptoms disappeared when no eggs were eaten. He further observed that these symptoms were produced even when egg was taken in the smallest possible quantity, as in puddings or soups. He also stated that honey, various fruits and vegetables, fish, tea, coffee and alcoholic beverages produced characteristic symptoms in certain individuals. Since then, from time to time, cases have been reported especially among children, who could tolerate neither milk nor eggs. They have often been described as clinical entities but have not been satisfactorily explained.

It is not uncommon for gastro-intestinal symptoms to be concurrent with attacks of urticaria and angioneurotic edema, conditions which at the present time are considered in many instances as manifestations of the hypersensitive state. Longcope² believes that

contact with sensitizing substances under certain conditions may cause hay fever, asthma, gastro-intestinal disturbances, eczema, urticaria or other cutaneous manifestations. Rackemann³ states that hypersensitiveness may be the basis for abdominal pain. Freeman⁴ states that pollen experimentally swallowed with food gives rise to nausea, vomiting, indigestion and diarrhea. He also gives five examples of severe vomiting and diarrhea from the ingestion of apple, egg, milk, honey and wheat. These patients were either sufferers from hay fever or were the antecedents of hay fever patients. Van Leeuwen⁵ mentions vomiting and diarrhea as being the gastro-intestinal symptoms produced by hypersensitiveness to foodstuffs. He quotes Laroche, Richet and St. Girons⁶ who have recognized conditions which they designate as "la grande anaphylaxie alimentaire" and "la petite anaphylaxie alimentaire." The former is responsible for extremely serious symptoms leading at times to the cases of death in babies and adults from the ingestion of very small amounts of milk, egg or other foods; the latter, which is much more frequent, causing conjunctivitis, eczema, intestinal symptoms, rhinorrhea, and attacks of asthma or migraine. Duke⁷ has observed patients sensitive to one or more foods who invariably had an attack of severe abdominal pain whenever they had eaten the food to which they were sensitive. The pain in the majority of instances occurred soon after the ingestion of the food and lasted three to six hours. He has seen others, in whom the pain did not appear for from three to twenty four hours and in these cases it lasted much longer. In many the pain was associated with nausea and vomiting, less frequently with indigestion, bloating, diarrhea and mucous stools. He also cites one case (case 4) in which the subcutaneous injections of the offending protein as a therapeutic measure gave rise to abdominal pain and vomiting; and, another case (case 5), clinically classified as Henoch's purpura, in which the performance of the intradermal test was followed by abdominal pain requiring morphine for relief. Roentgen ray examination of

1. From the Department of Internal Medicine, Washington University School of Medicine.



Fig. 1. Colon after barium enema taken during the routine gastro-intestinal X-ray examination. Normal haustra and a tendency to be hypotonic in the ascending portion

the stomach during the attack of pain showed the same general features observed at a previous examination when the patient had been free from pain, except that there was an increase in tone and an increase in the number and depth of the peristaltic waves. In five of the cases reported by him the pain was located in the epigastrium and was non-radiating. Crispin⁸ reports a patient with gastric trouble for twenty three years. This patient had a recognized angioneurotic edema, but in addition, the abdominal symptoms were severe pain and vomiting of large amounts of blood. Roentgen examination of the stomach just preceding an attack of angioneurotic edema showed a lesion of the stomach at or near the pylorus. Though the angioneurotic edema condition was recognized, exploratory laparotomy was advised because of the hematemesis and the X-ray findings. At operation, no lesion of the stomach was found and it was thought that the lesion reported by the roentgenologist was a visceral swelling.

In our own experience, the occurrence of abdominal symptoms as the unequivocal result of allergy is shown in two patients with hay fever, in whom the therapeutic injection of the larger doses of pollen extract was frequently followed by abdominal pain and diarrhea; and in another patient with asthma in whom positive cutaneous reactions to codfish and glue had been obtained. Dr. A. B. Day observed this patient in a general reaction manifested by urticaria, angioneurotic edema of the eyes, tongue, larynx and severe generalized abdominal pain as the result of covering an abrasion with court plaster.

The abdominal symptoms of food hypersensitiveness are variable and there is no characteristic clinical picture as seen in organic gastro-intestinal disease. The symptoms generally include nausea, vomiting, indigestion and pain. Among those we have studied on account of hay fever, bronchial asthma, angioneurotic edema, urticaria and sensitization eczema, there have been thirty one cases with gastro-intestinal symptoms. These symptoms are, in the order of their frequency, abdominal gas or distention, twenty two cases; abdominal pain, fourteen cases in nine of which the pain was localized either in the epigastrium or right upper quadrant, the pain being of general distribution in the remainder; nausea in twelve cases; epigastric fullness or pressure in contrast to general abdominal distention in two cases; diarrhea in five cases, and vomiting in two cases. In most of the cases, these symptoms were associated, the most frequent combination being abdominal distention and

pain (ten cases). In the absence of detectable organic abdominal disease, and in the presence of such allergic manifestations as hay fever, bronchial asthma, urticaria and angioneurotic edema with positive cutaneous or intradermal allergic reactions, it is reasonable to believe that these abdominal symptoms might also be on an allergic basis, the symptoms being due to involvement of the gastro-intestinal mucosa. Furthermore the therapeutic test of withdrawing the suspected offending foods, with resultant disappearance of abdominal symptoms, lends plausibility to this suggestion.

We have very little knowledge as to what actually occurs within the abdomen, but as the result of laparotomies performed under mistaken diagnoses, hemorrhages into the bowel wall, edema of the intestinal mucous membrane, urticarial swelling of the gastro-intestinal wall, and smooth muscle spasm have been reported. Also, Morris⁹ passed a stomach tube in a patient with angioneurotic edema during an attack of colic. A small piece of mucosal tissue was caught in the tip of the tube. This on microscopic examination showed a noninflammatory edema, which is, in accord with Coca's belief that the lesion of hypersensitiveness is edema. In relation to this problem, the observations on the following case are of interest.

X-RAY DEMONSTRATION OF CASE

A woman of 35 years was seen in July, 1925. She has had hives for the past eight years, practically always, in the summertime. The onset of the urticaria was in May or June and lasted until August. Accompanying this urticaria there was stomach trouble which consisted of epigastric burning, regurgitation of all foods, frequent hiccup, alternating constipation and diarrhea, abdominal colic and excessive abdominal gas and bloating. These symptoms persisted as a rule until cold weather, but there have been winter attacks. The urticaria at the present time occurs both during the day and night and is of universal distribution.

She has had no bed-confining illnesses; ten years previously the appendix was removed for gastro-intestinal symptoms similar to those she has during the period of urticaria, which have been present as long as she could remember; tonsillectomy has also been performed. She has had a goiter that has been reduced by the administration of a clear medicine followed by thyroid feeding.

There is no history of asthma, eczema or angioneurotic edema. No seasonal hay fever symptoms have been noted, but she has always been subject to frequent colds, characterized by sneezing and copious colorless coryza. House dust produces these symptoms at any time of the year. She does not recall any foods specifically disagreeing with her at any time in her life, but at the present time all foods seem to cause gastro-intestinal symptoms. There is no history of allergic manifestations in the antecedents.

She has tried various combinations of foods without obtaining complete relief. For instance, when



Fig. 2. Colon at the time patient was having subjective pain as the result of purposeful wheat feeding. Colon disharmonic, hypotonic in the cecum and ascending portion and hypertonic in the transverse and pelvic portions. The haustra are small, distinct and well separated.

taking no "acid foods" there were less hives but no change in gastro-intestinal symptoms; a diet of eggs, toast and coffee resulted in slight improvement of both conditions. A period of fasting resulted in an absence of urticaria.

The physical examination showed a fairly nourished and developed small framed woman, weighing one hundred twenty pounds. The temperature, pulse and respiration were normal; the skin felt rather dry and thickened, especially over the precarpal areas; there was no dermatographia. The heart and lungs were essentially negative; the abdomen was moderately distended. Urticarial wheals, varying in size from one to four centimeters, were fairly numerous and widely distributed. No further abnormalities were found.

Urine and blood examinations were within normal limits. The basal metabolic rate was minus 12.5 per cent.

Cutaneous tests for hypersensitiveness by the scratch method gave erythema reactions without papules or wheals to wheat glutenin, egg white, egg yolk, lactalbumin, cheese and raspberry. By the intradermal method, only tomato showed definite small pseudopodia and a surrounding zone of erythema.

On a general diet free of wheat, eggs, milk and tomato, the urticaria and gastro-intestinal symptoms disappeared in one week's time.

She was next seen in October, on the surgical service of St. Luke's Hospital, through the courtesy of Dr. M. B. Clopton. At this time, she was again having mild urticaria with abdominal symptoms which seemed to point to right upper quadrant disease and for which surgical relief was contemplated. Of utmost importance in the interim history was the fact that the present period of abdominal discomfort corresponds to the period during which she has been eating Graham bread.

The physical examination was essentially the same as previously related, and in addition the abdomen was soft with some slight tenderness over the gallbladder region and over the right side of the abdomen. The sigmoid colon was palpable and one could make out the cecum as a soft nonresistant mass.

She was given 3.5 grams of sodium tetraiodophenolphthalein and a normal gallbladder was visualized. The conclusions from gastro-intestinal X-ray, using barium sulphate and malted milk were: gastric motor insufficiency 1°, functional; atypical small intestinal loops 1°, spastic pattern, somewhat suggestive of low grade peritoneal irritation. The barium enema showed the colon to be generally hypotonic 1°. (Fig. 1.)

In view of the inability to prove organic gastro-intestinal disease and the fact that this patient had urticarial manifestations of hypersensitiveness, the diagnosis of intestinal allergy was considered. There was some reason to incline to this view, for on our previous observation this patient had become symptomless both as to urticaria and gastro-intestinal symptoms on a diet which contained no egg, milk, wheat or tomato, which foods had given suggestive positive reactions. Furthermore, the fact that her present symptoms were co-incidental with the eating of Graham bread lent strength to this assumption. Accordingly, the following experimental observations were made:

She was purposely fed: one soft cooked egg without any other foods was given for breakfast. This produced no urticaria or abdominal symptoms over a period of forty eight hours; then, two slices of white bread without any other foods were given for breakfast. No urticaria or abdominal symptoms occurred over a period of forty eight hours; then, two slices of whole wheat bread without any other foods

were given for breakfast. One hour following this feeding she complained of right upper quadrant pain, not transmitted, and mild nausea. This resembled the attacks for which she ought surgical relief. Examination of the abdomen at this time showed a cord-like body extending across the abdomen from the right upper quadrant to the left upper quadrant and then into the lower left quadrant. This was tender and palpation reproduced the pain of which the patient complained. This cord-like body gave the impression that it was colon. On examination some minutes later, the colon was palpable from cecum to sigmoid. The hypodermic administration of 0.5 cc. of adrenalin chloride, 1:1000, gave relief of the subjective symptoms within five minutes.

The effect of adrenalin was controlled by the following observation: Two days later, for breakfast, two slices of whole wheat bread were again given without other foods. There was a similar production of symptoms and physical findings as heretofore, with the addition of pain under the right shoulder. A hypodermic of normal saline solution was given. This gave no relief. Adrenalin, 0.5 cc., was then given hypodermically with prompt subjective relief.

Gastro-intestinal X-ray examinations at the time of subjective discomfort were now attempted in an endeavor to elucidate what might be occurring within the abdomen. To determine whether the atypical small intestinal loops had any connection with the symptomatology, barium sulphate in malted milk was given at 4 a. m., and an X-ray plate taken at 10 a. m., when the abdominal symptoms were present as the result of whole wheat feeding, given one and a half hours earlier. An insufficient amount of the opaque meal remained in the small intestine to allow of conclusions. The complaints following this whole wheat feeding were similar to those noted previously, with the addition of the regurgitation of bile and the occurrence of urticaria. Inasmuch as no adrenalin was given during this observation, it is possible that the adrenalin administered at our previous observations prevented the occurrence of urticaria at this time.

Several days later, whole wheat bread was again given for breakfast and when the subjective symptoms were present a barium enema was given. Fluoroscopically, this showed a spastic colon, more pronounced in the transverse and descending portions. An X-ray film taken at this time showed a colon of disharmonic tonus, being hypotonic in the cecum and ascending portions and hypertonic in the transverse and pelvic portions. (Fig. 2.) Adrenalin chloride, 0.5 cc. of 1:1000 solution, given hypodermically, produced subjective relief in a few minutes and fluoroscopic examination revealed less spasticity of the transverse and descending colon. Examination of the X-ray film taken at this time shows considerably less hypertonicity of the transverse and pelvic colon. (Fig. 3.) The picture approximates the one taken in the course of the routine gastro-intestinal examination as shown in Fig. 1.

DISCUSSION

From the clinical standpoint, this case is one of food idiosyncrasy to whole wheat. The existence of urticaria in conjunction with abdominal symptom leads one to consider the case one of hypersensitiveness despite the absence of unmistakably positive cutaneous reactions. This combination of symptoms occurs frequently, and Coca and Grove¹⁰ have shown that clinical hypersensitiveness may exist in the absence of

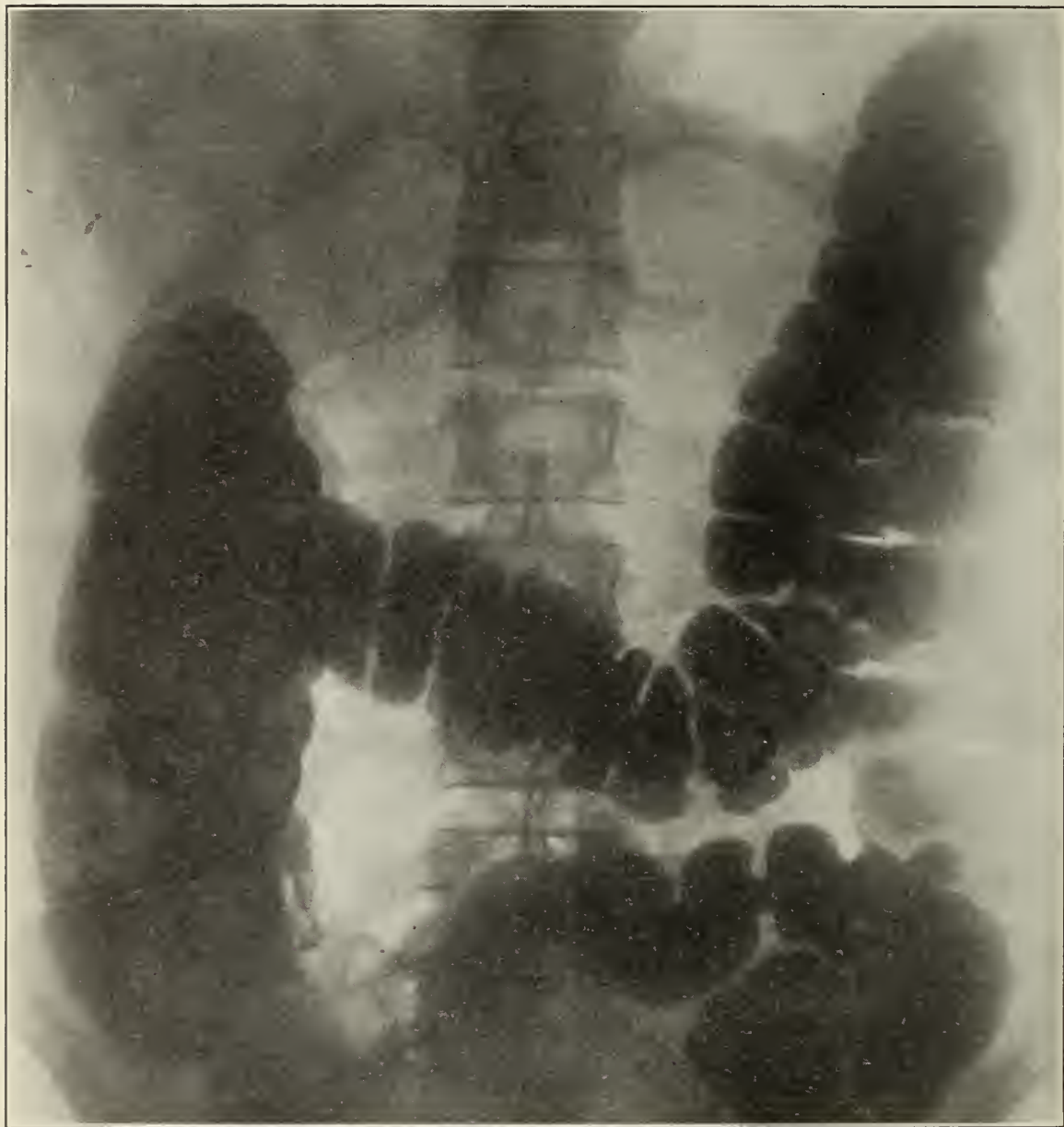


Fig. 3. Colon about ten minutes after Fig. 2 was taken and at the time that subjective symptoms were relieved by the hypodermic administration of 0.5 cc. of adrenalin chlo-ride, 1:1000. There is considerably less hypertonicity of the transverse and pelvic colon. Approximates the picture taken during the routine gastro-intestinal examination (Fig. 1).

positive cutaneous reaction in patients with urticaria and drug idiosyncrasy.

The analogy between the subjective release of colon spasticity in this case by the hypodermic administration of adrenalin, and the similar result obtained in cases of bronchospasm is striking. The simulation of right upper quadrant disease, even to right shoulder pain, and the regurgitation of bile following the purposeful feeding of a sensitizing substance, are of considerable diagnostic interest.

SUMMARY

1. A case is presented with symptoms simulating gallbladder disease, but with evidences of allergy.

2. The case is studied after the administration of whole wheat bread which never fails to produce gastro-intestinal symptoms, of which pain is the outstanding feature. These attacks are relieved by the hypodermic administration of adrenalin chloride, 1:1000.

3. X-ray films reveal spasticity of the colon which is relieved by the hypodermic administration of adrenalin.

4. It seems justifiable to conclude that this case is one of hypersensitiveness affecting the intestinal musculature and may be classified in the group usually known as intestinal or abdominal allergy.

5. From the observations in this case, it seems possible that colonic spasticity may be a factor in the production of abdominal pain in this type of affliction.

1102 Missouri Bldg.

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THE PROBLEM OF SUBCLAVIAN ANEURYSM*

LIGATION OF ARTERY AT FIRST PORTION; PRESENTATION OF PATIENT

WALTER C. G. KIRCHNER, M.D.

ST. LOUIS

In discussing the problem of the treatment of subclavian aneurysm, it may better

serve our purpose to narrate briefly in this connection the history of a case of traumatic aneurysm of the subclavian artery in which it was necessary to ligate the artery at its first portion. The patient under consideration was referred to the writer for observation and treatment by Dr. L. W. Grosse who was also associated with the operation and after care. It will be necessary to enumerate only the salient points of the history of the case and to present the patient to emphasize the difficulties that may be encountered in the treatment of this condition.

REPORT OF CASE

Presentation of Patient. This patient, W. Y., is a colored man, age 41 years, who stated that in 1913 he was shot through the left shoulder. The bullet entered at the mid-portion of the clavicle and took a direction inward and downward through the neck lodging under the skin to the right of the spine on a level with the first dorsal vertebra where it was easily removed by the doctor who first saw him. The wound healed readily but there was impairment in the use of the left hand. Later, however, the function of the hand and arm returned. A small pulsating tumor developed above and adjacent to the mid portion of the clavicle. He was admitted to one of the hospitals in St. Louis, but when operative measures were advised and the seriousness of the condition was explained to him he refused further treatment. He continued his work as furniture mover, the tumor for a period of ten years remaining about the same size, when on a certain day while carrying a load on his shoulder he experienced a sudden pain in the region of the tumor. The tumor grew larger, it encroached upon the side of the neck, he lost the use of the arm and he suffered pain not only in the shoulder but also in the thumb and first finger. The gradually increasing size of the tumor, the inability to use the left arm, and the pain, discomfort and lack of sleep finally compelled him to consult a surgeon.

There was nothing in the antecedent history of the case that was of special interest. Regarding the present condition the following notations were made: In the supraclavicular region behind the middle third of the clavicle there was an expansile and pulsating tumor, dome-like in appearance, which measured 3.5 inches across and 4.5 inches in its longest diameter. The tumor was in contact with the clavicle and also extended inward as far as the neck. The usual characteristics of an aneurysm were elicited. A radiogram of the left shoulder girdle showed a large subclavian aneurysm with marked calcification of the subclavian artery. The blood pressure was 150-108 and was the same for both the right and left arm. The pulse rate was 92 per minute. Comparative measurements showed definite atrophy of the left arm. Sensation was present everywhere over the skin of the left arm, forearm, and hand. The movements of the left arm and hand were slightly restricted, and compared with the right the skin was of a paler color. Pressure symptoms of the tumor were present and there was pain in the region of the mass and the affected extremity. It was on account of the pain that the patient sought surgical relief.

*From our knowledge of aneurysms we know that with few exceptions they prove

*Read before the St. Louis Medical Society, Nov. 30, 1926.
1. *Brit. J. Surg.* **10**:367, Jan. 1923.

fatal when left untreated, as rupture takes place either externally or into the pleura, trachea, or bronchus. As the aneurysmal sac enlarges it encroaches upon important structures, pressure symptoms manifest themselves, considerable pain is present either at the site of the tumor or referred to more distant parts of the limb, neck or shoulder, and the resulting necrosis may involve not only the soft structure, but also the clavicle. There is an alteration in the circulation of the affected limb which usually becomes atrophied, and the function and usefulness of the extremity is impaired.

In Souchon's statistics, as referred to by Matas, in which 115 cases were studied, 81 were idiopathic and 31 of traumatic origin. Aneurysm of the first and second divisions is less frequent than of the third division. Of 551 cases of aneurysms in general, about 4 per cent. were of the subclavian type. Nonoperative measures have as a rule failed to effect a cure. Of a number of different operative procedures that of ligation and treatment of the aneurysmal sac has given the best results.

The older surgeons considered ligation of the subclavian artery, especially on the left side, an impracticable procedure. Sherrill, who studied the matter of ligation of the subclavian artery in 1910, found that the ligation of the artery anteriorly in its first division on the left side had been successfully accomplished by Halsted, Schuempert and Juengst and quotes Halsted as stating that the right subclavian, in its first division had been ligated twelve or more times and that each case resulted fatally.

The difficulties of ligation may be appreciated when the anatomical relations of the subclavian artery are considered. The first portion of the left subclavian artery originates from the arch of the aorta and, ascending almost vertically to the root of the neck, curves outward on the pleura toward the inner margin of the scalenus anticus. The relations differ somewhat from those on the right side. The second part represents the highest part of the artery and lies behind the scalenus anticus. The third part of the subclavian is found in the supraclavicular triangle and at the outer part of the first rib. Where the artery enters the axilla it becomes the axillary artery. The branches of the subclavian and the anatomical relations are most important and therefore the surgery of this region is often very difficult.

According to J. H. Armsby, the first division of the subclavian artery has been

ligated thirteen times with one recovery. It becomes evident that ligation of the first portion of the left subclavian for aneurysm is a serious and difficult procedure, although the results in recent years when modern aseptic methods of operating have been employed have shown considerable improvement.

The problem as it applied to our own case which is presented here for your consideration, was not an easy one. Several methods of surgical attack presented themselves for consideration. If the methods of ligation were to be employed, what effect would these have on the life and usefulness of the extremity? Should temporary ligations be tried or should the method of gradual obliteration by the use of Halsted's aluminum bands be employed? Ligations of the artery distal to the sac have not given good results. Ligations proximal to the sac have in a few instances resulted in a cure, but mostly the simple ligations of the subclavian alone have resulted in recurrences. In any method to be pursued it would be important to test the efficiency of the collateral circulation. Of the various methods employed in determining the efficiency of the collateral circulation, namely, the hyperemia or color test, the preliminary occlusion of the main vessel by the use of removable bands, oscillometric manometry and clinical observation tests, not all are applicable in the case of aneurysm of the subclavian. In the gradual development of an aneurysm as occurred in our case, the consequent pathologic changes permit the collateral circulation to so adjust itself that an efficient blood supply in the limb is maintained, and it may be remarked that in pathologic aneurysms of the subclavian artery gangrene of the extremity rarely occurs which may be explained by the efficiency of the collateral circulation about the shoulder girdle.

The element of shock and duration of the operation were important matters for consideration and necessitated the decision for a one or two stage operation. The age and resistance of the patient, the size and location of the tumor and its relation to important structures, the efficiency of the collateral circulation and the possibility of improvement by compression of the main vessel, massage and therapeutic measures, were factors that were given careful consideration.

Since the aneurysm was large and encroached upon important structures the method of surgical attack offered a difficult

problem, and if ligation of the first part was to be done it was necessary to decide whether this be attempted anteriorly or posteriorly through the chest wall. A method of posterior attack was described in 1910 by Sherill, who performed the operation by making an incision along the posterior margin of the scapula about 4 inches long, joining this by an incision directed inward from the inferior extremity to the spinous process and another similar incision placed at the upper part of the first incision. Within this area the soft tissues were dissected from the ribs, and the second, third and fourth ribs were removed for a distance of about 3 inches. By liberating the pleura and pushing it gently downward and outward, the subclavian artery was made accessible and ligation was made possible. A somewhat similar operation for ligating the first part of the left subclavian from behind has been more recently described by A. K. Henry.¹ In approaching the subclavian artery for ligating the first portion from the front, several operators have found it necessary to resect the clavicle. However, a simpler procedure, based on anatomical landmarks, is perfectly feasible as demonstrated by the operation which was performed on our patient.

Operation: The operation was performed under general ether anesthesia, preceded by the administration of morphine sulphate, gr. $\frac{1}{4}$, and atropine sulphate, gr. $\frac{1}{150}$. A skin incision about 3 inches long was made along the outer and lower border of the sternomastoid muscle and from the lower end another incision was made in an outward direction parallel to the clavicle and over the tumor. A triangular flap of skin with the platysma was dissected free after ligation of the external jugular, to expose the underlying structures.

The outer border of the sternomastoid was made free by dissection along the fascial planes, and by inward retraction of the muscle the jugular vein, the carotid artery and the pneumogastric nerve were exposed. The digastric muscle which crosses these structures was severed. In this location it was found that the aneurysmal sac extended toward the carotid and by contact seemed to be a part of this artery. The internal jugular vein was traced to the subclavian vein and the thoracic duct was defined. In order to expose the scalenus anticus it was necessary to free by dissection a number of glands and a part of the sac of the aneurysm and then the phrenic nerve could be seen as it lay flat upon this muscle. With the anterior border of the scalenus anticus as a guide, the finger dissects its way along the border to the first rib. Behind the muscle was

felt the pulsation of the aneurysm, but the normal subclavian artery was not defined. The finger passing along the insertion of the scalenus anticus, the dissection was continued beneath the first rib and along the left side of the bodies of the vertebrae. The arching portion of the subclavian lies deeply, as far as the tip of the index finger could reach, but was readily then laid bare by deep retraction and blunt dissection. The pleura was not so readily defined and, resembling fascial structure, might therefore easily be injured.

With the use of deep narrow retractors, the subclavian artery was seen lying deep at the bottom of the space. The sheath of the artery was separated and with an aneurysm needle a double strand of No. 2 chromic catgut was placed at the first portion of the subclavian artery and the vessel was ligated. Pulsation of the aneurysmal sac ceased at once. There was no accident or complication in performing the ligation. On account of the depth and limited space, an aneurysm needle with the arm making an obtuse angle with the shaft is to be preferred in passing the ligature. Ligation of the artery was so readily performed that obliteration of the aneurysmal sac was next attempted. The structures overlying the most prominent part of the sac were made free and, as had been done in numerous other instances, the sac was freely incised and 50 to 60 cubic centimeters of soft light brown and friable clot were removed. The outer covering of the sac was fibrous in character, while the inner coating peeled off easily, was soft, thin, smooth, bluish, and on the inner side resembled intima. In spite of the ligation, hemorrhage from within the sac was quite profuse and came from the region of the internal mammary artery, the vertebral and thyroid axis. The sac had several chambers or pockets; one under and behind the mid-portion of the clavicle which formed the wall of this portion of the sac. Another pocket was in the region of the internal mammary artery, and a third projection extended behind the scalenus anticus muscle. The inner part of the wall showed calcareous deposits behind the intima. There was no bleeding from the distal part of the sac. The bleeding vessels leading to the sac could not be clamped off and hemorrhage had to be controlled by compression. With difficulty, suture was placed and bleeding from the internal mammary artery was controlled by ligation. The brachial plexus could not be defined and the area was involved in dense cicatricial tissue. Sutures were placed to control hemorrhage from the vertebral artery and thyroid axis, but owing to the pocket formation, ligation en masse had here to be employed, realizing the possibility of encroaching on the nerves of

the brachial plexus. It was a great relief when all hemorrhage was controlled. The globular portion of the sac was obliterated by imbrication of the margins, as recommended by Matas, and the resulting mass was about 3 centimeters in diameter. The cut skin margins were approximated with silkworm gut sutures. Though the operation was long and tedious, the patient stood the operation fairly well and reacted shortly after being placed in bed. Though the pulse was absent, there seemed to be evidence of a sluggish circulation and the entire extremity was placed in cotton and kept warm.

The postoperative course as to the patient's general condition was uneventful. There was impairment of the extensor muscles of the forearm resulting in wrist drop, though sensation everywhere was complete. On the third and sixth day a quantity of serosanguineous fluid was liberated from the wound in the neck. Good wound healing without infection ultimately resulted.

The patient had not been seen for nearly 3 years. He had not used the arm much and there was considerable muscular atrophy. The wrist drop had improved slightly. With massage and properly directed exercise a fairly satisfactory result may yet be obtained. The aneurysm has remained completely cured. The radial pulse cannot be felt and the blood pressure on the affected side could not be recorded.

By way of comment it may be stated that of the conservative methods, ligations and the gradual obliteration of the lumen of the artery by the use of aluminum bands are the most useful. The radical procedures resolve themselves into aneurysmotomy, aneurysmectomy and endoaneurysmorrhaphy. Some operators have obtained good results by complete excision of the aneurysm. The simpler endoaneurysmorrhaphy I believe is to be preferred since this operation is more conservative. The restorative and reconstructive operations are of little value, and therefore the obliterative type of operation is to be preferred. When the aneurysmal sac is pouched and ramifying as in this case, intrasaccular suture is very difficult and if possible the tributary vessels should be made free so that ligation may be performed if required. It seems easier and best therefore to expose these vessels before opening the sac since otherwise the dissection may be impossible. The case here presented illustrates the necessity of having all of the vessels associated with the sac under control. If there is any doubt as to the collateral circulation, the occlusion of the main artery by the application of the aluminum band or ligature should first be tried. Whether a one or two stage operation is to be performed

depends upon the various factors that are associated with the condition. The simpler the procedure the more ideal is the operation in this type of cases and on this account, when it is necessary to treat the sac, we believe that endoaneurysmorrhaphy as recommended by Matas is the operation that is likely to give the best results.

Metropolitan Bldg.

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TYPHOID FEVER: SOME NEW AND SOME FORGOTTEN FACTS

E. W. SAUNDERS, M.D.

ST. LOUIS

When the Gruber-Widal reaction was announced there was so great an enthusiasm for the new test that the diazo reaction was almost forgotten. Since a biologic test has proved to be so uncertain as to time of its appearance in a given case, the chemical test is again coming into its own. The last edition of "Green's Diagnosis" does full justice to the Ehrlich reaction. Other works on diagnosis fail to give the same measure of justice to this long neglected procedure. Dr. Greene lays stress upon the laboratory precautions which should never be neglected. If the reagents are not freshly prepared the result may be a fallacious one. No physician however remote from the city laboratory can be in doubt as to the identity of a suspected case of typhoid after the fifth day if he will keep the necessary reagents on hand and prepare them fresh for each test. As to interpretation of a negative result, as Greene well says, it cannot be typhoid; and if it be positive, after excluding measles and the late stage of tuberculosis, there can be seldom a shadow of doubt.

Dr. Lynn, of Paducah, was, as far as I know, the first to use mercurochrome intravenously in the treatment of typhoid, and the result was so strikingly favorable that he sent the record to Dr. Hugh Young for publication. The disease is so seldom seen in the city of St. Louis since the purification of the water in 1903 that the opportunity for trying the new treatment is seldom offered. During the last three years every case seen by myself and my associates has received mercurochrome intravenously and the results were certainly most favorable in the modification of the symptoms and the shortening of the course of the disease. In every case the spleen began to recede after the first injection and was never again palpable. M-220 has a very striking effect upon the spleen, not only in typhoid fever but in splenic leukaemia. In the two cases of that disease treated by Dr. Kneal and myself with repeated injections of 220 the swift reduction of the enormous spleen was most astonishing, although there was nothing like a cure in either case and the spleen returned to its original size after a short time.

Two cases of typhoid, aged 45 and 16 years respectively, came to Bethesda Hospital in November, 1925, from the same farm in southeast Missouri. Dr. L. L. Collins injected both with 220 immediately and made the Gruber-Widal and Diazo tests, both negative. Each patient presented an ugly sore on the forefinger of the right hand, with marked lymphangitis and lymphadenitis extending to the axilla. Laboratory report showed no *tularensis* but a pure culture of staphylococcus. Both patients were very ill, stuporous and not clear in their amnesia. No diarrhea and a slightly enlarged spleen. The 220 was given so promptly because of the evident staphylococemia. Two days later both diazo and Widal were positive. The cases went on to recovery, interrupted only by the abscesses which had to be opened. They received three intravenous 220 injections altogether. The spleen became normal and remained so after two days of treatment. No diarrhea at any time except the ordinary stimulation of the colon following 220 treatment.

Lynn's case was treated at a late stage but no undue irritation of the bowel was noted. After the eleventh day we cannot help being a little apprehensive as to the stimulating effect of 220 on an ulcerated bowel. As it has been shown that the most of the drug is eliminated by the liver, the stimulating effect must be expected, not only upon the colon but upon the small intestine. Since Young's first publication the Bethesda Hospital staff has used his treatment in all sorts of infections, and we can affirm that within our experience mercuro-

chrome is always a friend to the kidney, stimulating it to action in anuria and in albuminuria diminishing the percentage of albumin. It is undoubtedly a safe diuretic of great value. As to the mode of administration, we have given it intravenously, intraspinaly (two cases of Dr. T. Wistar White), intrathoracically in a number of cases, but never intraperitoneally.

Dr. Ecklund experimented on guinea pigs and found that the drug was not absorbed and the animals died with more fluid in the peritoneal cavity than had been injected. Others have had great success with intraperitoneal injections, but these experiences deterred us from the experiment. It is well to remember that it is an excellent precaution to administer enough fluid to remedy any condition of dehydration that may be present. In babies, and they have furnished the overwhelming preponderance of our cases, the fluid is given by stomach tube, intraperitoneally, subcutaneously, or intravenously through the same needle that the 220 is given.

To return to the treatment of typhoid, we have in all cases characterized by high temperature, combined the Da Costa treatment by guaiacol inunction. It is very regrettable that this treatment has fallen for so many years into unmerited disuse. It should be known to every physician that guaiacol rubbed pure into the skin in the dose proportioned to age and always followed by an oil rub to prevent irritation, will reduce the temperature in typhoid and tuberculosis infection, and also in cases of pneumococcus pneumonia uncomplicated.

1541 S. Grand Ave.

COLLAPSE THERAPY IN PULMONARY DISEASE:*

J. J. SINGER, M.D.

ST. LOUIS

Of all the known remedies and cures for tuberculosis suggested from time to time not one has stood the test of time unless rest to the diseased portion of the lung was the prime consideration. Climate, various drugs, metal derivatives, as intravenous treatment, tuberculin in its many variations, gases for inhalation, have all failed to produce that long sought for cure in tuberculosis.

It has long been known that in spite of the great involvement of one or both lungs, a definite number of tuberculous individuals re-

1. From the Department of Medicine, Washington University Medical School and Barnes Hospital.

*Read before the Illinois Trudeau Society, Peoria, Ill., December 16, 1926.

covered while others with minimal involvement frequently died of toxemia. What makes this difference? That is the great problem in curing tuberculosis.

In a close study of healed cases it was frequently observed that fibrosis of the lung occurred with a contraction of the chest wall on that side; also that the contralateral lung would become enlarged (compensatory hypertrophy). The chest cavity actually filled by this large compensatory lung and the fibroid lung and collapsed chest wall will prevent the diseased lung from functioning. This was interpreted as "nature's way" of healing. We have all seen such cases which on first examination appear to be third stage cases as diagnosed by physical findings and roentgen ray plates. These patients are often fever free, may have some purulent sputum, but otherwise look quite well. Another type of case which often does well are those who have had effusion in the pleura. It is not a far stretch of the imagination to assume that here again we have the collapse of the diseased lung by the pleural fluid, which might be responsible for the resulting rest to the lung, with the fibrosis and absorption of the inflammatory reaction around the tuberculous process.

As far back as 1821 an English physician, Dr. Carson, found that a tuberculous patient who suddenly developed a spontaneous pneumothorax following exertion ultimately recovered from a serious involvement of the lung. It was not, however, until 1890 that Forlanini suggested that a collapse of the lung by gradual compression with gas could be done therapeutically. Previous to this time, Potain, of France, had suggested that the idea of aspirating fluid in effusion cases and replacing it with air would be an excellent treatment. At that time roentgen rays were not known and he thus did not realize that a therapeutic pneumothorax was of such great value. Murphy, of Chicago, independently described artificial pneumothorax the same year as Forlanini.

This idea of collapsing the lung gradually by more or less frequent pneumothorax treatments soon took hold all over the scientific medical world, but unfortunately the technique had not been carefully worked out so that the desired results were not obtained; in fact many fatalities occurred. Thus it was that the operation became almost in disrepute and only a few men continued to perform it. In 1910 and 1911 more men began to use it again and found that by more careful selection of cases, better antiseptic technique, and with lower pleural pressures it was possible to keep the lung inactive in function and thus produce the desired result.

The collapse therapy of today therefore is based on a more definite knowledge of the

physiology of the chest and more care in the selection of cases.* The cases best suited for collapse are those in which the tuberculous condition is unilateral and the patient has not improved with the usual sanatorium treatment, whether at an institution or in a home.

When one considers how often tuberculous patients recover in spite of great involvement one should give the patient a chance of "time." This obviously does not apply in severe hemorrhage cases.

The cases of tuberculosis suitable for treatment fall into three classes: (1) hemorrhage cases, when there is no doubt from which lung the bleeding occurs; (2) unilateral cases with a good compensatory contralateral lung, and (3) bilateral cases in which cough and serious symptoms of toxemia might be relieved by the partial collapse of one lung, or even of both lungs.

In Class 1, that is the hemorrhage cases, brilliant results are obtained. Frequently, aspiration pneumonia and rapid spreading of the tuberculous process follows the hemorrhage. One must use more air in these cases because it is necessary to obtain a complete collapse as soon as possible. The usual method of combating hemorrhage by using hemostatic drugs and even transfusion frequently fails although a single pneumothorax treatment produces the desired result. The great stumbling block to satisfactory collapse are adhesions between the pleurae. One is never sure of the presence or absence of adhesions before the use of the manometer. However, if no pleural space is found in the first attempt, several other sites should be tried before discontinuing treatment.

In Class 2, the unilateral cases, a definite localization of the tuberculous process in the one lung is rare, but experience has shown that, in the presence of a small amount of infection in the contralateral lung, good results will frequently follow the treatment. It is understood, of course, even in this class of cases, that the usual expectant rest treatment has been carried out with no benefit. One should not wait too long, however, as it is in precisely these cases that good judgment is so necessary to obtain good results.

In Class 3, the far advanced bilateral cases, the most hopeless sufferers are often placed in the position of enjoying in a way the few remaining months or years. Many an unfortunate patient is allowed to suffer on and on, especially with the persistent cough and sweats, when he might be much improved by judicious use of pneumothorax treatment. It has been shown recently by Stivelman⁵ and others that partial collapse will do more than was expected. Observation of this class of cases with partial collapse is that the air introduced produces most

compression on the diseased area and less on the healthy part of the lung. This seemingly selective collapse is explained on the theory that diseased tissue is less elastic than the healthy parts of the lung and, consequently, offers less resistance to pressure of the gas. These conditions in the chest can be readily noted in the fluoroscopic examination.

Statistics show that this class of cases gives the largest percentage of failures as far as cure is concerned; yet, at times, startlingly good results are seen even here.

One frequently hears that the benefits derived are due to the psychologic effects of "doing something." One cannot deny that a certain percentage of persons react in this way, but the results are usually due to actual compression of the lung itself.

Another important use for pneumothorax is for diagnostic purposes. It has been noted by many workers that more information of the lung pathologic condition can be had by the introduction of a small amount of air in the pleural cavity in obscure cases when fluid is present. By removal of the fluid and replacing it with air, tumors of the chest wall and of the lung, mediastinal masses and calcification of the pleura can frequently be seen. In this method it is not necessary to introduce a large amount of air and it can very readily be removed after the desired information is obtained.

It has been observed frequently that following repeated aspiration of fluid and frequent recurrence, the introduction of from 200 to 500 cc. of air will prevent further accumulation of fluid and as the air is absorbed the lung will re-expand. It also has been noted that when aspiration of fluid from the chest cavity is difficult the introduction of air causes a back pressure that will make aspiration easier.

Tabulated results definitely show that pneumothorax, properly used, will save many lives and give great comfort to many tuberculous patients.

In a series of thirty-five cases we had the following results:

Table 1. Improvement After Pneumothorax in Various Stages of Tuberculosis (Author's Cases) 1924

	Stages	Per Cent.
Incipient	5	14 Plus
Moderately advanced	12	34 Plus
Advanced	18	51 Plus
	Incipient Cases	Per Cent.
Apparently well	4	80
Not improved	1	20
Deaths	0	
	Moderately Advanced	Per Cent.
Apparently well	7	58 Plus
Improved	3	25
Not improved	2	16 Plus
Deaths	0	

	Advanced	Per Cent.
Apparently well	3	16 Plus
Not improved	4	22
Deaths	11	61

Matson, Matson and Bisailon in a large series of cases had the following results:

Table 2. Results Showing Benefits From Partial or Complete Pneumothorax (Matson, Matson and Bisailon)

Six hundred cases:
149 are clinically well
84 are arrested; ambulant
274 are dead -

The remaining cases are either favorably influenced, temporarily improved or unimproved.

Of the one hundred and forty nine cases clinically well:
114 were satisfactory compressions
28 were partial compressions
7 had no free pleural space

Of the eighty four cases arrested ambulant:
44 were satisfactory compressions
29 were partial compressions
11 had no free pleural space

Of the two hundred and seventy four fatal cases:
52 were satisfactory compressions
142 were partial compressions
80 had no pleural space

Of the two hundred and ten satisfactory compressions:
114 are clinically well
44 are arrested; ambulant
52 are dead

Of the one hundred and ninety nine partial compressions:
28 are clinically well
29 are arrested; ambulant
142 are dead

Of the ninety eight cases no free pleural space (control cases):
7 are clinically well
11 are arrested; ambulant
80 are dead

CONCLUSIONS ON PNEUMOTHORAX

1. All evidence points to the great value of pneumothorax in the treatment of pulmonary tuberculosis.
2. Complications arising are relatively rare in the hands of careful operators.
3. Diagnostic pneumothorax is valuable in pulmonary involvement.
4. Pneumothorax should be instituted early in cases showing no improvement after at least six months of the usual treatment for tuberculosis.

Medical men interested in tuberculosis are very patient people. Time apparently is no object if results are good. Patients, therefore, are submitted to surgical collapse only after the simpler measures have failed.

In cases that have many adhesions which prevent a good collapse, the extraordinary methods are advised. These are, (1) phrenicotomy, (2) phrenicotomy with thoracoplasty, and (3) thoracoplasty.

Phrenicotomy is the operation of severing and pulling out (exairesis) of the phrenic nerve as it crosses the scalenus anticus muscle in its sheath below the sternomastoid. It is usually found alone just above the clavicle. This procedure was first devised by Dr. Sturtz in 1911. It was soon taken up by many surgeons in Europe and America. Many patients were benefited so much by this relatively simple

procedure and the general condition of the patient so improved that further operative work was either postponed or the more formidable operation thoracoplasty was done with safety.

In order to isolate the nerve and to be sure that the phrenic nerve is presented, the surgeon resorts to the electrical stimulation of the isolated nerve and the roentgenologist with a portable X-ray machine, with operating fluoroscope, notes the contraction of the diaphragm when it is stimulated. Occasionally, the sympathetic has been severed or irritated and a typical Horner syndrome is noted.

It is the consensus of opinion of those who are doing this operation that phrenicotomy should be considered only as an adjunct to pneumothorax or thoracoplasty.

Thoracoplasty is the operation originally used to collapse chronic empyema patients and was found by "bold" surgeons to represent a permanent form of collapse of a tuberculous lung. This closely approximates in its practical value that of successful pneumothorax.

In view of the fact that only the most diseased cases of tuberculosis are ever submitted to this operation, the first statistics were not good; also, as in pneumothorax work, better technique now shows a much larger number recovered and many more improved.

The operation itself is done by removing portions of eleven ribs on the affected side close to the vertebra, the larger sections in lower ribs. There is no danger of pleural infection because the ribs and periosteum are removed extrapleurally. The thoracic cage, however, does not drop until the first rib is severed.

The operation is done in two or more stages and is usually done without general anesthesia, although many thoracic surgeons prefer to use gas-oxygen. This kind of surgery is best done when there is teamwork between a surgeon skilled in thoracic work and an internist especially trained in thoracic surgical diseases.

Thoracic surgery while not in its infancy is far from being perfected, and each team must blaze their own uncharted way. In our work Dr. Evarts A. Graham and I form a team, with associates, and watch a case from beginning to end, feeling that the case is not a medical or surgical problem but a combined one.

The cases submitted for this operation are those in which there is a unilateral involvement with more or less fibrosis. Pneumothorax is always attempted and if adhesions prevent a collapse then the thoracoplasty is done. The results of the operation certainly have been most promising, considering the character of the disease and the failure of all other methods in the particular case.

Gravesen in his recent monograph reports the following 123 cases.

In percentage the results of the whole number of complete thoracoplasties, which can at present time be judged, show the following figures:

Operation mortality	7.5 per cent.
Stationary or worse	25.8 "
Improved	19.2 "
Much improved, or relatively cured...	47.5 "

Dr. John Alexander collected statistics from 1918 to 1925, and reports the following:

Percentage results of the 1159 cases collected after subtraction of 75 "under treatment" and "result unknown" cases. As none of the 75 patients died as a result of operation, the percentage of deaths connected with operation may be computed on the basis of the total 1159 cases; this figure, then, would be 13.2 per cent. instead of 14.1 per cent.

	Per cent.
Apparently completely cured	24.8
Clinically cured	12.0
Total cured	36.8
Greatly improved	8.4
Somewhat improved	16.0
Total improved	24.4
Total cured and improved.....	61.2
Unchanged	2.7
Worse	2.6
Total living and unimproved.....	5.25
Dead from causes directly or indirectly connected with operation .....(13.2)	14.1
Dead from causes not connected with operation but chiefly from tuberculosis in the unoperated lung	19.4
Total deaths	33.5
Total deaths and unimproved.....	38.75

One can see from a study of these statistics that thoracoplasty opens up a new field for otherwise hopelessly tuberculous patients. It is too early properly to evaluate statistics but time, better technique, and more cases will demonstrate whether thoracoplasty should be done more often.

Barnes Hospital.

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PROSTATIC HYPERTROPHY: DIAGNOSIS AND TREATMENT*

NEIL S. MOORE, M.D.

ST. LOUIS

Despite the fact that interest in prostatic surgery has been very keen, especially among urologists, and the rapid strides that have been attained within the past few years making the operation of prostatectomy comparatively safe, we continue to find the afflicted patient who has been advised by some physician or layman that "he is too old to be operated" and therefore doomed to a catheter life and the ever prevailing fear that some night he may awaken and find that it is impossible for him or his physician to pass a catheter. The patient is then rushed to a hospital and because he has voluntarily refused previous treatment, or has been advised against it until his case becomes an emergency, the chances for a smooth recovery have been greatly minimized.

When invited to choose my subject in presenting a paper before this body, I felt that I could present nothing more useful than my case reports in prostatic surgery, most of which covered five years of service in St. Anthony's Hospital. But when invited to prepare and present the paper for publication, I find it difficult to refrain from compiling a lot of uninteresting but concrete charts and tables. On the other hand I find it equally as difficult to present a paper with any degree of interest to the reader without apparently boasting of the results we have had, both as to restoration of function and low mortality. Should this impression be gained I trust I shall be pardoned.

DIAGNOSIS

The typical case in this series has ranged in age from 54 to 90 years. Urinary symptoms have been frequency, urgency, burning, incontinence, hematuria, slow, sluggish stream and complete retention. Day and night frequency are at first about equal, but as the disease progresses the night frequency becomes more prevalent, owing to the fact that there is damage to the kidneys resulting in nocturnal polyuria. Urgency, burning and slow, sluggish stream are due to encroachment of the enlarged gland upon the urethral canal, and occur in the presence or absence of residual urine. Incontinence is usually an overflow from the distended bladder, but it occurred in one case where there was no residuum. Hematuria has accompanied the benign enlargements more than the malignant. Complete retention has in many cases been the first symptom par-

ticularly recalled, which was relieved with a catheter and followed from a few months to many years, with satisfactory relief to the patient.

In addition to the above symptoms, which have ranged from 6 months to 48 years, there is often a history of an exciting cause, such as chilling and occasionally some form of trauma. Eighty per cent. of the cases have applied for relief in the spring and fall seasons. All of them have been residents of St. Louis or within a radius of 300 miles of St. Louis, except one whose home was in Northern Wisconsin.

Generally, the complaints have been loss of weight, lassitude, malaise, vertigo, headache, gastro-intestinal disturbances and chills and fever. These symptoms increase in direct proportion to the progression of the disease.



Fig. 1. Benign prostate above medium size hypertrophy. Weight 40 grams. There was complete retention of urine.

Since there are so many urinary conditions that are associated with symptoms similar to those accompanying prostatism, the problem in diagnosis becomes essentially a differential one. This consists of a careful analysis of the symptoms but, of more importance, is complete urological examination in the following routine way:

1. Observe the stream as to size and force. Measure amount passed at each urination.
2. Determine amount of residual urine after the patient has emptied the bladder as nearly as possible. This should be carried out in the most careful way under strict aseptic technic. The bladder is irrigated through the catheter with some antiseptic solution and if there is more than two ounces of residuum part of this is replaced with boric or saline solution.
3. Complete urinalysis, especially as to chemistry, specific gravity, microscopical and bacte-

riological examination. As soon as possible a 24 hour summary of the urine is made.

4. Palpation of the prostate as to size, shape, contour, consistency and sensitiveness.

5. Cystoscopic examination is judiciously made with a No. 16 cystoscope where possible. This we feel is necessary to determine the amount of intravesical enlargement, and the absence or presence of diverticula, bladder stones and tumors which, when present, modify the usual procedure in treatment.

6. A point in diagnosis which I find gives a great deal of information is palpation of the prostate per rectum over the cystoscope just before the instrument is withdrawn. It conveys to one an idea of the thickness of the middle and posterior lobes, and additional information concerning the lateral lobes.

7. Where it is impossible or impractical to do a cystoscopic examination a great deal of information may be gained through injecting the bladder and making cystograms. The technic of cystography was described by me in a previous paper which was published in the *Journal of Urology*, August, 1922.

In the main these seven points, carefully elicited, are sufficient to differentiate true prostate hypertrophy from other genito-urinary conditions symptomatically simulating it. However, a complete study of sections from different parts of the gland, after removal, is necessary to rule out early malignancy. Sectional examination has been routinely carried out in all of our cases. There has been one in which carcinoma could not be found and was not suspected before operation, but was suspected at operation as the gland was adherent at one small point. This case has since become clinically malignant.

Routine, general physical examination has been of value in arriving at a diagnosis but has been most valuable in governing the kind and time of treatment and probable prognosis. It is necessary to know the condition of the various organs, which as a rule cannot be determined from one examination. The kidneys are of foremost importance and are studied as to phthalein output, ability to concentrate urine under afebrile conditions, and nitrogen retention. Heart and blood vessels, and condition of the blood are closely observed. We have found that hypertension where there is not too marked arteriosclerosis, is a better surgical risk than hypotension. One of this series, a carcinomatous prostate, where we were unable to increase the red cell count above 2,500,000 and the hemoglobin above 50 per cent., successfully withstood a two stage operation, the second under gas and oxygen, and lived for a year afterward.

After all has been said and done, I believe that a great deal depends upon the individual and the surgeon's ability to study and cooperate with that individual's personality as to whether or not the patient will be successfully carried through an operation so extensive as prostatectomy often is. Many of our patients who seemed to be good surgical risks have given us the most trouble, and vice versa.

TREATMENT

There is no surgical operation that so naturally divides itself into three phases as the operation for prostatism, namely; preoperative, operative, and postoperative. My experience, which I believe is not at variance with most operators, is that the first and last phases are of more importance than the second.



Fig. 2. Benign prostate, weight 300 grams. This is the largest prostate we have been able to find recorded. Urinary retention was not complete.

Treatment begins the instant the patient comes into the care of a physician and ends with complete restoration of function, and when sufficient strength has been gained to carry on ordinary duties.

Taking my own cases as a basis of judgment, I feel perfectly safe in saying that the physician who appreciates the value of careful manipulation and careful observation throughout the preoperative and preparatory stage is the one who will be better paid at the end, if not in a monetary way, with gratefulness.

Drainage is the point of most importance throughout the entire course of treatment. This should at first be done very carefully. Interrupted catheterizations are advisable, replacing most of the residual urine with boric or saline solution, gradually reducing the amount replaced until the bladder can be safe-

ly emptied. But if edema of the gland should develop, as it often does, then a catheter is anchored through the urethra into the bladder, and by means of a cork allow a few ounces at a time to escape until continuous drainage is safe. Large quantities of water by mouth are insisted upon, as it is very easy for the patient to become dehydrated.

We find that our results are better if these patients are allowed out of bed to walk about, wear the same clothes and eat about the same diet that they have been accustomed to, as well as indulge any other moderate habits they may have.

The time for operative procedure is determined entirely by the general appearance of the patient and the various tests, especially phthalein output and nitrogen retention. It has been necessary to resort to alkaline solutions by mouth and rectum, intravenous solutions and blood transfusions. Some of our cases have drained for 3 or 4 months before ready for operation, and some only a few days.

This presentation deals only with prostates hypertrophied sufficiently to justify complete removal. The diagnosis made and the patient ready for operation it then becomes necessary to decide on which operation is best, perineal or suprapubic. All cases in this series have been done by the suprapubic route. It offers the best functional results, though the drainage is a little more difficult, can be done in two stages and I believe is the most popular operation.

Based upon theory and experience that two stage operations are preferable in debilitated and advanced cases, all of our operations have been carried out in this way. It opens avenues of infection gradually, permits better drainage than can be effected through an indwelling catheter and the time lost is only a matter of a few days.

The first stage, or suprapubic drainage, is done under local infiltration anesthesia when the interior of the bladder is explored, stones removed and diverticula resected if present. A small drainage tube is inserted, bladder closed with interrupted sutures, the peritoneum anchored high and all dead space eliminated or drained. The incision is completely closed around the tube in layers.

Necrosis of surrounding tissues produced by a tube larger than 40 French is sufficient to discourage the use of such tubes. Siphon drainage is all that is necessary. Mechanical aspirators have not been satisfactory and often disturb the patient. Until the tissues have adhered and thrown off protective serum, overdistention of the bladder flushes infected material into the perivesical space, increasing the

chances for infection. Only enough solution is injected with a syringe through the tube for the first 48 hours to promote free drainage. After 48 hours thorough flushing is advisable.

After the first day the patient is encouraged to sit up in bed and is allowed to sit on a chair as soon as he has the inclination. In fact, at no time is he allowed in extreme recumbency. The various tests are all repeated at the end of 5 days. Within a week or 10 days, the average patient is ready for removal of the prostate.

We have found that the majority of cases undergo the second operation very safely with gas and oxygen or ethylene anesthesia, and do not have the mental shock often accompanying spinal or sacral anesthesia, which in this series has been rarely indicated. Everything is in readiness for the operation before the anesthetic is started so that the patient receives only enough anesthesia to complete the operation. This, in benign prostates, has required from 12 to 30 minutes depending upon the thickness of the abdominal wall.

The wound is reopened, bladder exposed and the opening enlarged sufficiently to allow removal of the prostate with minimum trauma to the tissues. A hasty and clean enucleation is most desirable, and we have been better able to do this without inserting a finger into the rectum. Hemorrhage is controlled with a bag or a pack, according to choice in the individual case. Both methods have advantages. Occasionally it is necessary to suture and ligate, but this consumes valuable time. A large angle tube, No. 40 to 50 French, is used for drainage immediately following the second operation, to better carry away existing blood clots.

If packs are used, they are removed at the end of 48 to 72 hours. Bags are deflated at the end of 12 hours and removed after 48 hours if there are no signs of active hemorrhage. A small suprapubic drainage tube is placed for 3 or 4 days, when an indwelling urethral catheter is inserted and continuous drainage instituted. The catheter is carefully replaced with a clean, sterile one every 4 or 5 days until the suprapubic fistula is closed and the patient able to void. With close observation and virtually personal care we have been able to keep our patients comparatively dry and the wounds clean throughout the drainage period.

COMPLICATIONS

In order of frequency, complications in this series have been pyelitis, epididymitis, secondary hemorrhage, pneumonia, wound infection, general infection and cerebral embolus.

Since it is almost impossible to catheterize

ureters and lavage during the drainage period, pyelitis, a very common complication, often requires hard work and serious consideration. An elevation of temperature to 101 or more (Fahrenheit) in 80 per cent. of these cases means pyelitis. After all other possible infections have been excluded the patient is given large doses of hexamethylenamin and sodium acid phosphate by mouth, when as a rule the fever subsides. If this medication is not well borne by mouth, hexamethylenamin may be given intravenously.

All measures are taken to prevent occurrence of the other complications enumerated. If they do occur the treatment is expectant and does not require details at this time.

RESULTS

In all the cases operated in different hospitals there have been seven deaths which may be classed as operative mortalities. Two followed first stage cystotomies; one of the cases was intoxicated and the other apparently had an overdose of morphine and scopolamin. Two have died from cerebral embolus, one a carcinomatous case nearly ready to leave the hospital. Two, very aged, 83 and 90 years respectively and very arteriosclerotic, have died from general infection. One malignant case died of pneumonia following deep Roentgen-ray therapy, when almost ready to leave the hospital. There have been no immediate deaths.

Eight malignant prostates have been removed only as a last resort because of complete retention and inability to catheterize. Three of these are living, one after $4\frac{1}{2}$ years and the other after $3\frac{1}{2}$ years, one nearly 1 year. Three lived 1 year, one of which developed a rectovesical fistula soon after the operation.

Functional results have been very satisfactory. Two suprapubic fistulas failed to heal, where benign prostates had been removed, requiring secondary closure after a year. There have been several cases of dribbling all of which have subsided, though one case continued for almost 6 months and ceased without interference.

Sexual potency has been investigated only in a very meager way, since most of the cases have lived beyond their sexual life. One of the youngest cases, however, a bachelor, operated at the age of 54 has since been happily married.

CHRONIC DUODENAL INFLAMMATION AND TRAUMATIZATION

CLINICAL AND ROENTGEN OBSERVATIONS

FREDERICK E. DIEMER, M.D.

KANSAS CITY, MO

Before the advent of routine gastro-intestinal studies, the symptom syndrome of ulceration of the upper tract was more often attributed to the stomach. We now know that gastric ulcer is comparatively rare and that duodenal ulcer is indeed common. The symptoms of gastric ulcer vary quite definitely according to their different locations, while those of duodenal ulcer are classical and positive except in those infrequent cases where the ulcer is situated distal to the bulb.

Forty years ago, John M. Allen, Professor of Medicine at the University Medical College of Kansas City, Missouri, attempted to differentiate the symptoms of ulceration of the upper tract. At that time he began to incorporate in his teaching the theories of "chronic inflammation and ulceration of the duodenum." Dr. Allen was among the first to appreciate the importance of differentiating gastric and duodenal ulceration.

Continued studies aided by the theories of Dr. Allen and others and assisted especially by Roentgen methods which later came into vogue, eventually established the fact that chronic intrinsic digestive disturbances of the upper tract were, in the great majority of cases, due to ulceration of the duodenal bulb. The early theories with regard to the ulcerative processes of the duodenum were proven but the ideas as to a chronic nonulcerative duodenitis are not as yet generally accepted.

The symptoms of these two conditions are not separately recognized, unless extreme care is exercised in the interpretation of the clinical and laboratory findings together with a correct recognition of the significance of the behavior of the duodenum upon Roentgen examination. The causative factor in ulcerative duodenitis is almost always mechanical. Therefore, even though the symptoms in these two conditions are somewhat similar, the treatment is different.

I have used the term "duodenal traumatization" because of the mechanical element which enters into the causation. I offer this description of the conditions after Roentgen examination and clinical study of many cases of upper gastro-intestinal conditions in which an ulcerative process was suspected from the clinical study but not found radiographically. After eliminating those cases which were manifestly neurological or reflex, I found that there remained a goodly percentage wherein the pa-

tients' complaint could only be explained by the behavior of the duodenum as it was observed by means of Roentgen ray.

Normally, the stomach begins to expell its contents directly after ingestion and continues to eject small amounts regularly until empty. The average time for emptying after a liquid meal of from 16 to 20 ounces is three and one-half hours. The normal duodenum receives the ejections and conveys them without delay into the jejunum. It is not the nature of the duodenum to tolerate any contents whatsoever. There should be no peristaltic effort observed in the first part of the duodenum and but little in the remaining portions. The motility of the duodenum is very significant in the determination of abnormalities of this organ.

Duodenal traumatization with the attending low grade inflammatory processes is manifest roentgenographically by the following phenomena:

First. The bulb remains partially or completely filled with the clasma throughout the screen examination and perhaps presents feeble peristaltic action. The reason for this stasis or delay is apparently a sharp angulation at the juncture of the first and second portions. The contents of the bulb are acid in reaction and their delayed presence is very irritating. No filling defects or other direct indications of ulcer are present but indirect evidence, such as localized tenderness, is almost always to be found when pressure is made over the cap.

Second. The distal limbs of the duodenum become filled, in fact oftentimes distended by the barium mixture and instead of an uninterrupted passage, vigorous peristalsis churns the clasma back and forth several times before it enters the jejunum. These waves begin at the juncture of the first and second portions of the duodenum and travel rapidly towards the distal portion. Thus the barium is confined under pressure in the distal duodenum and when the wave passes the proximal part of the bolus it is ejected forcibly back into the transverse and descending limbs. This process is repeated a varying number of times until finally the mass passes into the jejunum. The vigorous peristaltic action together with the exaggerated valvulae conniventes shadows indicate hypertrophy of the duodenal musculature. The capacity and length of the duodenum indicates the duration and severity of the process. I wish to lay stress upon the importance of the interpretation of duodenal capacity. This organ varies in capacity and length and many investigators place but slight importance upon the degree of tonicity and dilatation. In the beginning of the process of duodenal traumatization there is a very vigorous peristaltic action which causes the organ to appear small

in size. As the abnormality continues the capacity and length increase while the vigor of its musculature is decreased. In aggravated cases the muscular activity and resiliency are definitely increased immediately after a meal but slowly decreased as the musculature tires. Very often a six-hour gastric residue accompanies a static duodenum for this reason.

The causes of duodenal stasis or obstruction in the order of frequency are as follows:

1. Disproportionate gastric and duodenal suspension. The stomach is low and the distal duodenum suspended high. The normal gravity aid to the passage through this organ is decreased or absent.

2. Acute angulation with lessened mobility at the duodeno-jejunal angle. This type differs slightly from the first in the fact that there is a greater degree of actual fixed obstruction.

3. Obstructions due to transduodenal bands, adhesions, short superior mesenteric artery, etc.

The symptomatology naturally varies over a considerable range according to the type and degree of obstruction but the patients' complaint seems to depend very largely upon the extent of the duodenal traumatization and chronic inflammation. In the main the condition may be described as follows:

Chronic duodenal inflammation is usually seen between the ages of 20 and 30 and most frequently in women, the proportion being about 3 to 1. These patients are almost invariably of slender build and of the ptotic type. They present themselves usually after having consulted many other physicians. The outstanding complaint consists of gastric distress beginning immediately after meals or even while eating. The interval of time between the ingestion of the first of the meal and the appearance of the distress depends upon the degree of pyloric spasm which is very prevalent in this condition. This distress is often alleviated or entirely relieved upon the patient lying down. Alkalies do not give relief as in gastric or duodenal ulceration. In the severe cases there is a sensation of "gurgling" in the upper abdomen which disappears when the recumbent position is assumed. Vomiting attacks which continue for several days appear at varying intervals. There are symptoms suggesting reflex irritability and those which suggest ulceration but these latter symptoms are not classic. Differential facts are as follows: Food, drink, or soda does not relieve, there is no occult or vomited blood and no uncomfortable feeling awakens the patient between the hours of 11 p. m. and 2 a. m. The gastric chemistry is of little aid in making the differentiation. There are many individual complaints which will aid in the diagnosis once the

condition is suspected. The above are merely the essential symptoms.

Many of these patients have undergone various surgical procedures (appendectomy, cholecystotomy, etc.) with no relief. At the time of operation, exploration of the stomach and duodenum failed to reveal the presence of ulcer. This fact should direct attention to the distal duodenum. The surgeon, during his exploration, should remember the following facts: The roentgenologist examines these patients in the upright position while an opaque substance is traversing the duodenum. The surgeon views the duodenum while empty with the patient recumbent. Even though the surgeon has a direct view of the region, he is at a distinct disadvantage.

The following remarks regarding management are prompted after re-examination of patients following treatment:

Treatment of patients in classes 1 and 2 is very satisfactory under management. This consists of rest in bed with feeding to increase the intra-abdominal extra intestinal pressure and aids in the support of organs. The suspension or hammock operation gives relief, the duration of which depends upon maintenance of intra-abdominal fat. I have never examined a patient after severance of the ligament of Treitz and the supports of the duodenum at the distal end after it again becomes intraperitoneal. Patients in class three require surgical procedures such as duodeno-jejunosomy, division of bands and adhesions, etc. Gastroenterostomy is not indicated.

In conclusion, I wish to call attention to the vast importance of further clinical and Roentgen study of the distal portions of the duodenum, with the view of establishing definitely the differential facts in chronic duodenitis.

337 Lathrop Building.

THE CLINICAL ASPECT OF PERNICIOUS ANEMIA*

ALBERT S. WELCH, M.D.

KANSAS CITY, MO.

This paper does not deal with the peculiar blood picture of pernicious anemia, speculations as to its cause, nor any particular treatment yielding favorable results. The object is better understanding of pernicious anemia from a clinical point of view in order that patients may be treated with greater satisfaction.

Here is a practical definition: Pernicious anemia is a diseased condition in which no cause is found, characterised by profound chronic anemia, not materially influenced by treatment and terminating in death. If any of

these four modifications are violated, the condition is not pernicious anemia. If a cause is found, if the anemia is not chronic and high grade, if there is incontrovertible evidence of favorable influence by treatment, or if the patient recovers, then the case is something other than pernicious anemia. With such a definition, clinical duties and limitations are obvious.

In the first place, before any condition with high grade anemia can be diagnosed pernicious anemia, every known cause of secondary anemia must be ruled out. This requires much time and effort on the part of the clinician and the success of the undertaking will depend upon his judgment, thoroughness and general medical education.

Two common misunderstandings may be mentioned here. One has already been brought out, i. e. the misconception of pernicious anemia as a disease entity. As long as the etiology is unknown and the symptoms common with those of diseases of known cause, pernicious anemia cannot be correctly termed a disease entity. The other misunderstanding is that a certain blood picture is pathognomonic of pernicious anemia. The condition cannot be diagnosed in the laboratory from the presence of megalocytes, immature red cells, anisocytosis, poikilocytosis, leukopenia and decreased platelets. A high hemoglobin and low erythrocyte count occur with certain types of secondary anemia.

Two outstanding conditions have been erroneously diagnosed and treated as pernicious anemia: *concealed hemorrhage* and *intoxication*.

A young woman had gradually become anemic over a year's time until she presented the typical picture of a chronic high grade anemia—extreme weakness, vertigo, occasional syncope, spots before the eyes, a disagreeable taste and coated tongue, shortness of breath, cardiac palpitation, numbness and tingling, and sensitiveness to cold. The coagulation time of her blood was increased and counts and smears revealed a color index greater than one, and bizarre red cells irregularly stained. The woman appeared flabby and yellow. Being under a surgeon's care she was repeatedly transfused with whole blood with only temporary alleviation of her symptoms. Later the patient's stools were examined, found small, hard, black and gave an intensely positive test for occult blood. She had a so called "silent" ulcer of the duodenum and when this was treated medically her recovery was complete.

Intoxication results from poisons ingested, from poisons generated in the body, and from poisons normally formed but not adequately disposed of.

*Read at the meeting of the Nodaway County Medical Society, Feb. 11, 1927.

Ingested poisons may be in the form of material inspired, such as hemolytic gases from a machine shop or laboratory. The poison may be swallowed, such as fusil oil, nitrobenzol, pyridin, or phenylhydrazene. It seems probable that individual susceptibility plays an occasional role here, because only one of several workers in a shop filled with poisonous material may become incapacitated.

Certain parasites cause high grade chronic anemia, from the blood they devour and from toxic substances they liberate. Notorious among these are ameba, hookworm and the fish tapeworm.

Poison may be generated in the body with symptoms and a therapeutic response that incriminate the thyroid gland. Carcinoma, especially of the stomach, may produce symptoms of pernicious anemia, even to the achlorhydria and nervous manifestations from spinal metastases.

For some unexplained reason, the condition known as *asthenia universalis congenitalis* (Stillier type) has often been found associated with symptoms of pernicious anemia.¹

With disease of the liver, tyrosine, leucine and a host of other poisons appear, and there is hemolysis. Furthermore, when the detoxicating function of the liver is hindered, nitrogenous elements, notoriously lytic, get into the blood stream.

When the kidneys are injured, toxic material may be improperly eliminated.

Cardiovascular disease with passive congestion may lead to faulty function of the lungs, liver, kidneys and intestine. A certain degree of intoxication will result because the normal exchange of gases in the lungs is interfered with, the cyanotic liver does not completely detoxicate portal blood, the kidneys fail to receive and excrete their share of toxic material, or the congested gut wall is more permeable to poisons in the alimentary tract.

Deficient secretion of digestive juices often accompanies a high grade chronic anemia and while not proven the direct cause, certainly seems to aggravate the condition. When achylia is present, protein elements of the food and certain other materials pass into the absorptive part of the alimentary tract where they may become poisons. Large numbers of *B. Welchii* are found in the colon of such cases, but their presence depends upon the material in the gut which serves them as food, and this, as stated, may be altered.

Thus the differential diagnosis in a case of chronic high grade anemia entails a host of conditions, but the physician is usually satis-

factorily repaid for his painstaking study. In regard to the matter of approach, one of several points may be chosen. The attack may center about the anemia and a detailed history relating everything to it be secured. Or, in story-book form, a careful inquiry into succeeding events of the patient's life beginning several years before the anemia appeared may be made. Or the differential diagnosis may be undertaken from a classification standpoint, and the patient run through a questionnaire on all things known to be the cause of high grade chronic anemia. This last method is stereotype and requires a hopelessly extensive knowledge on the part of the physician, but must be resorted to at times. The first named method of approach exercises the judgment of the physician and by progressive elimination he follows out one certain branch without attempting to cover the whole tree of knowledge.

A leading question I always ask is, what is the patient's idea of the cause of his trouble. Frequently this gives a valuable clue that otherwise might have been overlooked.

An effort can be made to determine whether or not the anemia is of a hemolytic type or due to loss of blood. A search for internal hemorrhage by stool and gastric analysis will produce weighty evidence on the one side. Laboratory examination, where available, to determine the chemical composition of the blood and fragility of the erythrocytes will throw a little evidence on the other side. A smear should be made and examined by the physician who knows all of the other data in connection with the case. Such unusual conditions as Sickie-celled and aplastic anemia may be uncovered.

So called myelophthisic anemia should not be overlooked. This represents one of the recently discovered off-shoots of the original pernicious anemia group, and is due to encroachment upon the red marrow by metastatic tumors, or centripetal thickening of the shafts of the long bones.

It must never be forgotten that syphilis and tuberculosis may produce a picture almost identical with that of pernicious anemia. Such specific causes as these, neoplasm, parasites and distinct poisons should be the goal; and the diagnostic search should *not* be concluded upon the finding of a mere anatomic condition like mitral stenosis.

If at the end of this long, meticulous search, carried out perhaps over a period of several months, no cause is found for the chronic high grade anemia from which the patient has been suffering with remissions, and there is no incontrovertible evidence that the patient has improved, then the diagnosis of true pernicious anemia may be considered. If the patient dies

1. Greene, Chas. Lyman: Section on Pernicious Anemia, Tice's System of Medicine.

and at a complete autopsy there is the pathological picture described in textbooks, then the diagnosis is confirmed.

Of course the physician has other duties toward his patient besides the purely scientific calculation of the diseased condition and an answer—the prognosis. For their own satisfaction, these patients need a hopeful outlook and can be helped in readjustment to the new conditions of their life. If a patient is told by a reliable physician, "You have pernicious anemia, there is nothing in the world that can be done for you," he invariably becomes a more or less suitable prospect for the quack. Besides offering encouragement, the physician may contribute greatly to the patient's comfort by symptomatic treatment. If the patient feels better after a blood transfusion, he is welcome to it. However, I feel that splenectomy is perhaps slightly overstepping the bounds in symptomatic treatment. A patient whose anemia is due to a bleeding peptic ulcer will not be harmed much by transfusion, but may be seriously handicapped without a spleen.

Meanwhile, the profession looks conservatively toward the pathologist, chemist, laboratory worker and experimental physiologist for new data which will be applicable in the differential diagnosis and rational treatment of these cases.

835 Rialto Building.

TWO FACTORS IN CATARRHAL DEAFNESS

Hypertrophy of the lower turbinate has long been known to be a most potent factor in catarrhal deafness (obstruction of the eustachian tube). Otolologists have for many years amputated the posterior hypertrophy by means of a cold snare and this has frequently been a satisfactory procedure, but there are other cases in which the result may be obtained even after cold snaring has failed. The procedure employed by Greenfield Sluder, St. Louis (*Journal A. M. A.*, Nov. 27, 1926), for this purpose consists in the destruction of the soft tissues of the posterior tip of the turbinate by means of the galvanocautery. One incision is made under the tip, another is made on top of the tip, and a third incision is made on the middle of the tip and is prolonged backward until it reaches the face of the eustachian tube. Then, from in front, the middle incision is prolonged forward as far as the judgment of the surgeon may indicate. The healing of this wound fixes the scar on the bony tip of the turbinate, and as it contracts in its maturity it draws the anterior lip of the tube forward more or less to open it. The operation is difficult as it must necessarily be done through the mouth, the field being visible only in the postnasal mirror; but when properly performed it has proved to be no more dangerous than any other postnasal surgery. A most important factor is that the nose once operated on should be left absolutely alone. No nasal washes or applications should be made to the wound. The anterior nostril should be closed by a cotton pack which should be left in place for a week. The second factor in catarrhal deafness is the sphenoid cell. The customary sphenoid cell is

well known as limited to the body of the sphenoid; the prolongation of the cell downward into the pterygoid process even as far as the bifurcation of the plates occurs rather frequently. Sluder identifies this prolongation by means of radiopaque iodized oil which may be introduced into the sphenoid cell and then makes a roentgenogram. Opening the sphenoid according to the procedure described by Proetz is advocated by Sluder.

DIATHERMY IN TREATMENT OF GONORRHEAL ENDOCERVICITIS

Budd C. Corbus and Vincent J. O'Connor, Chicago (*Journal A. M. A.*, Nov. 27, 1926), consider the use of diathermy only in infections of the endocervix caused by the gonococcus of Neisser. Its use in other forms of infection is not contraindicated. Endocervical diathermy is contraindicated, however, during pregnancy and in the early acute stages of the infection, or when evident, active pelvic inflammatory changes, such as salpingitis or pelvic cellulitis, are present. In the early acute stages of the infection, the daily use of the vaginal bath speculum combined with a hot sitz bath helps to allay the accompanying vulvovaginitis and cervicitis. It is well to wait until the acute inflammatory symptoms have subsided before applying the thermophore to the endocervical canal. Treatments are continued from thirty to forty minutes at from 116 to 117 F. (from 46.5 to 47 C.). Occasionally the treatment is kept up for sixty minutes or longer with a varied reduction in temperature. It is emphasized that, in order to be successful in the cure of gonorrheal endocervicitis, infection in the urethra and in Bartholin's and Skene's glands must also be eliminated. Diathermy is a successful means of eliminating endocervical gonorrhea. The mechanism effecting such cures depends on: 1. A satisfactory high frequency machine. 2. The method of conveying the heat radiation (active and inactive electrode), which should be properly designed and adjusted. 3. The time of application of heat radiation, that is, any reasonable limit of not less than twenty-five minutes, which may extend as long as sixty minutes, absolutely controlled by the thermometer readings. Treatments must be continued until it is definitely proved that the gonococcus is permanently eliminated from the tissues. This presupposes a sufficiently prolonged clinical observation and the use of accurate technical methods for determining a cure. The clinical results attained by the careful application of this method have been satisfactorily demonstrated in the management of approximately 150 patients, during a period of more than six years.

CHEMICAL ANALYSIS OF SWEAT

Robert E. Barney, Ann Arbor, Mich. (*Journal A. M. A.*, Nov. 27, 1926), examined seventeen normal sweats, and the sweat from five cases of senile eczema and seven cases of psoriasis. These experiments tend to substantiate further a possible etiologic relationship between so-called senile eczema and the excretion of nitrogenous elements in the sweat. The diminution in the output of the chlorides of the sweat through the skin in the eczema group as compared to the normal cases suggests that the salts too may play, together with the nitrogenous elements, an etiologic role in this condition. In an examination of twenty-nine specimens, we were unable to determine the presence of uric acid in significant amounts, either quantitatively or qualitatively. It should be noted here that this sweat was obtained by the injection of pilocarpine.

THE JOURNAL

OF THE

Missouri State Medical Association

APRIL, 1927

EDITORIALS

THE SEDALIA MEETING—MAY 3, 4, 5

The Pettis County Medical Society who will be hosts to our Association at the 70th annual meeting May 3, 4, 5, are preparing to entertain a large number of guests and have sent an invitation to each county medical society urging as many members as possible to attend the meeting.

In order to make the stay of the members as pleasant as possible, the Pettis County Medical Society has arranged for a reception and dance to follow the addresses of the President and guests on Wednesday night, May 4. This function will be held at the Convention Hall in the City Park. On Tuesday evening, May 3, arrangements are being made for a boxing match. The usual golf tournament has been scheduled for the afternoon of Tuesday, May 3. The Women's Auxiliary will be entertained at a musical tea and a drive over the city and surrounding country.

The guests of the Association are Dr. C. M. Rosser, Dallas, Texas, Professor of Clinical Surgery, Baylor University College of Medicine; Dr. Frederick C. Waite, Cleveland, Ohio, Professor of Biology, Western Reserve University Medical School, and our own distinguished fellow member, Dr. Jabez N. Jackson, President-Elect of the American Medical Association.

HOUSE OF DELEGATES

The House of Delegates will meet on Monday, May 2, at 9 a. m. in the Probate Court Room and all sessions will be held in the Court House. The House of Delegates will remain in session during the entire day of Monday at which time the adoption of the proposed Constitution and By-Laws will come up for action.

SCIENTIFIC SESSIONS

The scientific sessions will be held in the Circuit Court Room. Beginning Tuesday morning May 3, a session will be held morning and afternoon on Tuesday, Wednesday and Thursday, the President's address and addresses by the guests being heard in the Circuit Court Room on Wednesday night.

The scientific program contains forty papers, each session being well filled with contributions by well known members on a large variety of topics. A symposium on railway and emergency surgery should prove extremely interesting. This occupies two thirds of Tuesday, May 3, the first day of the scientific session. Another symposium on blood transfusion will undoubtedly develop an interesting discussion.

HOTELS AND RATES

The Sedalia Committee in charge of hotel accommodations for the members is composed of Drs. M. T. Collins, W. J. Ferguson and E. F. Yancey. Members who have not arranged for hotel or room accommodations can address the members of this committee who will see that rooms are prepared for them. There will be an information desk at the registration bureau where members who prefer accommodations in homes rather than hotel rooms will be directed to suitable locations. The following are the hotels with rates. All are European plan, the rate being for rooms only:

HOTELS AND RATES

Terry Hotel. 150 rooms. \$2.50 a day without bath, \$3.00 a day with bath.
La Moore Hotel. 25 rooms. \$1.25 a day without bath, \$2.00 a day with bath.
Royal Hotel. 25 rooms. \$1.50 a day without bath, \$2.00 a day with bath.
Liberty Hotel. 10 rooms. \$1.25 a day without bath, \$2.00 a day with bath.

SEDALIA COMMITTEES FOR ANNUAL MEETING

The following committees have been appointed by the Pettis County Medical Society to look after the welfare of members during the session:

Housing Committee: M. T. Collins, W. J. Ferguson and E. F. Yancey.

Entertainment Committee: A. J. Campbell, F. B. Long, D. P. Dyer, Cord Bohling and A. E. Monroe.

Advertising Committee: J. E. Mitchell, W. G. Jones and J. B. Carlisle.

Parking Committee: J. W. Bogar and C. B. Trader.

Golf Committee: A. L. Walters and F. R. Morley.

PARKING

From reports coming to us we anticipate that a large number of members will drive through to Sedalia, so the Sedalia Committee has made special arrangements for parking space in one of the largest garages in Sedalia. The manager has assured the Sedalia committee that the charges for parking will be 25c for 12 hours and 50c for 24 hours.

THE GOLF TOURNAMENT

The Missouri State Medical Golf Tournament will be held during the Annual Meeting at Sedalia on the afternoon of Tuesday, May 3. There will be a handicap tournament but prizes will be awarded for low total score as well as for low net. Other events will also be arranged to make things interesting for the duffer as well as for par shooters and it is hoped that every member who wields a golf club will enter the tournament.

The play will be over the Sedalia Country Club course, a nine hole course, which will be in excellent condition at the time of the tournament. Following the afternoon's play the annual banquet will be held at the Club House.

Entries should be made in advance to the Chairman of the Golf Committee, Dr. A. L. Walter, Sedalia, but entry may be made at any time at the registration desk in the Pettis County Court House where the Sessions will be held. All entries should be accompanied by your official handicap. The greens fee of \$2 includes the cost of the annual dinner.

AMENDMENTS ADOPTED.

All the amendments to the Medical Practice Act introduced in the legislature were adopted and will become effective July 2, ninety days after the session adjourned. We believe most of our members are familiar with the principal amendments to the Medical Practice Act, but a resume is presented to refresh your memory. The following are the principal objectives attained:

(1) Compelling applicants for examination to furnish evidence of having attended throughout four terms of thirty two weeks each at a reputable medical college that enforces the four years attendance and of having received a diploma from such college; (2) requiring candidates to obtain an average of seventy-five per centum on all subjects examined on and not fall below fifty per centum on any one subject; (3) providing for reciprocity; (4) empowering the State Board of Health to initiate prosecutions against violators of the law; (5) permitting the State Board of Health to accept at its discretion the certificate of the National Board of Medical Examiners in lieu of the board's own professional examination; (6) exempting persons who treat disease by spiritual means or prayer and physicians living in a border state who treat patients in this state without maintaining an office or appointed place to meet patients and receive calls; (7) rescinding that portion of the present law which licenses, under certain conditions, practitioners who have lived and practiced in one county for a period of twenty years.

The bill was passed by the House on February 15, without amendment by a vote of 138 ayes and no noes. The companion bill in the Senate (Senate Bill No. 40) was passed by the Senate on February 14, with minor amendments correcting phraseology. When this bill reached the House of Representatives the adherents of the old diploma mill schools sprung a surprise on the House by offering two amendments through Mr. George Heege, a Representative from St. Louis County. One amendment inserted the three little words "is one that" in the clause requiring colleges to enforce the four year requirements, apparently attempting to define a reputable medical school as one that enforced these requirements. The other amendment which Mr. Heege introduced he said in his argument for its adoption, merely provided for the recognition by the State Board of Health of a few persons living in his district who had graduated from a school involved in the medical diploma mill during the two years when the word "reputable" was not in the statutes and therefore should be permitted to take the examination by the State Board of Health. The argument seemed reasonable and sound to those who heard it and was made more impressive by Mr. Heege's statement that "whether his amendments were adopted or not, he was for the bill as advocated by our Association and would vote for it." The amendments were adopted, but when Dr. Wallace and Dr. Mitchell and others who were watching the progress of our measures, received the amendments as printed they found that instead of providing for "a few persons" the amendment included every person holding a diploma from a "legally chartered medical school in the State prior to July 1, 1925," and made it mandatory upon the State Board of Health to admit all such persons to the examination. This caused our representatives to center all their efforts upon the adoption of House Bill No. 123 by the Senate, which had passed the House without amendments. We succeeded in doing this notwithstanding the very vigorous effort on the part of some Senators who were inclined to push the amendments adopted in the House when the bill came up for final passage in the Senate. All these Senators, however, abandoned this attitude and the bill was finally passed in the Senate by a vote of 32 ayes and no noes. The bill was signed by the governor March 14.

Another bill aimed at the medical diploma mill was Senate bill No. 96 which makes it illegal for a medical school to issue a diploma to any person without that person having attended the required number of years and also making it illegal for any person to receive a diploma without first having attended the re-

quired number of years. This is a new statute, there being nothing in the laws to punish such reprehensible conduct. Efforts were made by the diploma mill supporters to block the passage of this bill, not by amendment, but by manipulation and preventing its coming up for final action. We succeeded in having it passed in the Senate on March 15 and in the House on March 25 and it was signed by the Governor.

A bill was introduced to provide hospital care in the State University Hospital at Columbia for indigent crippled children. It carried an appropriation of \$35,000 for the care of these crippled children and was passed by the House and the Senate and signed by the governor. In this connection it may be stated that the House of Representatives adopted a resolution creating a committee to survey the state and ascertain the number of crippled children and their economic status. The movement in this direction was followed by the formation of the Missouri Society for Crippled Children with Dr. McKim Marriott, Dean of Washington University Medical School, as President, and Mr. Frank E. Kimball, Secretary of the State Board of Charities and Corrections, Secretary. The commission appointed by the House of Representatives named Dr. James Stewart, Secretary of the State Board of Health, as Chairman of the Commission and includes several members from both the House of Representatives and the Senate, the Superintendent of Public Schools and Dr. Rex Diveley, orthopedic surgeon in Kansas City.

The above is a short resume of the bills that we advocated and succeeded in having passed. There were several measures which we opposed, the principal one being a bill to abolish the office of State Health Supervisor and divide a large part of his salary among members of the Board of Eleemosynary Institutions and increase the salary of the superintendent of the colony for the feeble minded and a number of the assistant physicians in the state hospitals. This bill passed the House but met very decided opposition in the Senate. Through our Chairman of the Committee on Health and Public Instruction, Dr. Pearse, amendments were offered to the Senate Committee on Eleemosynary Institutions restoring the office of Health Supervisor and retaining his prerogatives and duties. These amendments were adopted by the Senate, but no effort was made by us or by the Senate to eliminate the clauses increasing the salaries. As amended the bill went back to the House of Representatives where it was concurred in and passed.

Another obnoxious bill was the nurses' bill, advocated by the Nurses Board, which rescinded present provisions for practical nurses

and obstetrical nurses. We opposed the passage of this measure and it failed to pass.

As usual an attempt was made to prevent vivisection. This was disclosed in two bills. In one of the bills vivisection was permitted when "properly conducted under the authority of the State University or a reputable medical school or university." That of course, excluded experiments by all private laboratories and individual physicians and hospitals and would have made it impossible to make the ordinary tests for Wassermann reactions and other necessary diagnostic procedures. This bill we had amended by providing that "nothing in this act shall be construed to prohibit the use of animals for scientific investigations and experiments." The other bill provided for a state license for all dogs and required the pound keeper to kill all dogs not redeemed by their owners within one week. It was not applicable to cities of over 50,000, which would have seriously interfered with the use of animals by state hospitals and private laboratories in towns of less than 50,000. This bill we had amended so that any citizen could redeem an impounded dog if the owner of the dog failed to do so.

The chiropractors finally got their bill through. In the House it was passed without difficulty, but met considerable opposition in the Senate. Many amendments were offered by those opposed to the bill but it weathered all the storms and reached the governor for his signature on March 14. The bill provides for a high school certificate before entering chiropractic school and three years of study, of nine months each year. The course of instruction is to include anatomy, physiology, pathology, hygiene and sanitation. Chiropractic is described as being the palpating and adjusting by hand of the spinal column and prohibits the use of surgery, obstetrics, osteopathy and the administration of prescribing of drugs.

The success of our program was due to the energetic and intelligent handling of the bills by Drs. Mitchell and Wallace and the splendid work of Mr. Caruthers and the cooperation of the county medical Societies. Senator Mitchell is an experienced legislator having served in the House of Representatives for several sessions and in the Senate in the session of 1925. He was therefore thoroughly informed with all attempts of our opponents to obstruct the passage of our measures and met these attempts with counter movements that kept the bills moving towards passage.

Dr. Wallace, experiencing his first service as a member of the state legislature, soon established himself in a strong position with the members of the House of Representatives by his intelligent, equable and dependable attitude toward all measures that attracted his interest,

and members found they could always depend upon his acting in accord with his announced intention. He was fearless in all his work, courageous in prosecuting the passage or defeat of a measure and early became recognized as one of the influential members of the House.

With these two members of the Assembly from our profession and with the excellent service rendered by Mr. Caruthers there was less necessity at this session for calling upon individual members of the Association than was customary at former sessions. Dr. Pearse, Chairman of the Committee on Legislation and the Executive Committee were kept fully informed of the status of affairs. These members made trips to Jefferson City on several occasions.

Altogether there was a total of forty three bills in the legislature that required the attention of our legislative committee.

Reciprocity with other states will undoubtedly be established by the State Board of Health and probably steps in this direction may be completed and reciprocal relations ready to become effective as soon as the new law becomes effective and in operation.

With the new law making it a criminal offense to give or accept a diploma without the terms of attendance being complied with the diploma mills will find great difficulty in operating in Missouri. In the future the people of the state, if the terms of the new law are followed, may feel confident that the holder of a license to practice medicine has at least a high school education and has honestly earned his medical diploma after four years of attendance in a reputable medical school.

WHAT SHOULD WE DO FOR THE CRIPPLED CHILDREN OF MISSOURI?

The bill to provide hospital care for crippled children in Missouri passed the legislature and was signed by Governor Baker. This measure carries an appropriation of \$35,000 to furnish equipment and facilities to treat these children in the hospital at the State University, Columbia. Preparations are being made by the hospital staff to begin this service as soon as the law becomes effective and the appropriation available.

There are seven rather definite steps that need to be taken in the interest of crippled children. They are as follows:

First. A survey by counties to locate the crippled children and determine the nature of their disabilities. This will involve the cooperation of the county medical association, the women's auxiliary, the county nurse, Rotary,

Kiwanis, Federated Clubs, and other organizations.

Second. As soon as these children have been located and a group of interested people have been gotten together for the purpose, crippled children should be thoroughly examined by a skilled orthopedic surgeon who will make recommendations to parents and others as to what needs to be done.

Third. The next step in most cases is an operation and in some cases a series of operations to straighten crooked legs and arms and restore functions to disused muscles.

Fourth. Following the operation comes a period of after care. Often from one to three years in length, and in some cases even longer. During this period there must be readjustment of braces and casts, corrective exercises, vocational therapy, heliotherapy and other measures.

Fifth. Throughout this period of after care the child should have regular opportunity for schooling. As these children are often confined to bed during a considerable portion of this period and unable to take part in active play, they often acquire a taste for reading and study much above the normal. It is not uncommon for the crippled child to make two grades a year in his school work.

Sixth. There is always a certain percentage of crippled children who will be permanent cripples. For them vocational training is indicated. It is generally possible to select for them a trade or profession in which their particular disability will not greatly interfere.

Seventh. If the child has been vocationally trained, the next step is vocational placement. Here the cripple will nearly always need help, as he cannot get around to secure a position very well himself and employers are often suspicious that he will not be efficient or that he will be an extraordinary liability in the way of compensation for injury. It is usually much easier for someone else to find a position for him than for him to find one himself.

PROPOSED CONSTITUTION AND BY-LAWS

In this issue we publish the proposed constitution and by-laws introduced at the 1926 session, so that members may make themselves familiar with the provisions and the delegates be ready to act upon their adoption at the Sedalia session. The complete text of the amendments will be found on page 162.

AUDIT OF BOOKS OF THE ASSOCIATION

On another page* we publish the report of the auditors who examined the financial affairs of the Association for the period

July 1 to December 31, 1926 ordered by the Executive Committee. Members will recall that the books were audited by the same firm, Messrs. Kessler, Cartall & Co., certified public accountants, in July, 1926 for the period covering the years 1924-25 and the first six months of 1926. This audit was published in the October, 1926 Journal. The audit shows that the financial affairs of the Association are in very excellent condition.

*See page 160.

PHYSICAL EDUCATION FACTS

Missouri was the 29th state to take up physical education. It came as the result of the findings on the draft showing that one-third of our young men were unable to pass the physical examination for army service. Physical education is now a part of the course of study and one unit is required for graduation from High School for all children in the public schools.

The present director took office in August, 1923. In October of that year there were found to be 16 physical directors on full time and 234 on part time. Returns in the fall of 1926 showed 61 on full time and a few over 700 on part time, an increase of more than 300 per cent.

In the fall of 1923 there were in the University and the various teachers' colleges of the state 1313 who were taking physical education. In the fall of 1926 there were 4580, an increase of somewhat over 300 per cent. In the summer of 1926 there were 3394. In the summer of 1923 there were 1571 taking physical education. The number taking hygiene during the year 1925-26 was 1368 and during the summer of 1926 there were 805.

Syllabi for the use of teachers and physical directors have been issued as follows:

- I. Manual of Physical Training in the Rural Schools.
- II. Standard Athletics and State Letters.
- III. School Grounds and their Equipment.
- IV. Health Measures and the Correction of Physical Defects.
- V. Physical Education in Junior and Senior High Schools.
- VI. Suggestions regarding Sportsmanship, Athletic Letters, and Training Rules.

Besides these the Department issues a monthly bulletin of instructions to superintendents and physical directors, and edits a section of the state school paper "*The School and Community*."

The Department issues a special medal to those boys and girls who meet the athletic standards set for children of different ages.

18,000 of these have been won each year for the last two years.

The Department also issues a State Letter for all-around accomplishment of those who overcome their physical defects, maintain a high scholarship, are good sportsmen, do some service to the school and excel in all-round athletics. The "M" which is given is believed to be a powerful stimulus to loyalty to the state. Minnesota and Michigan have adopted a state letter from Missouri. One thousand three hundred and thirty-six of these letters were won last year. A similar letter is offered to teachers. Last year 189 of these were won.

During this time every town of any considerable size has been visited and most of them several times. Frequent visits have been made to the teachers' colleges and the University and several hundred addresses have been given before Rotary clubs, Kiwanis clubs, parent-teachers' associations, teachers' institutes, state meetings and to high school groups throughout the state. Conferences have been held with interested groups.

There has been no appropriation for the Department for the past biennium. It has been maintained by interested individuals and associations interested in the welfare of children. These associations include the various teachers' associations, the American Legion, State Medical Association, State Dental Association, State Tuberculosis Association, the Federation of Women's Clubs, and the Parent-Teacher Associations. Something over \$12,000 has thus been available.

The Department has been collecting now for more than a year the material for a health syllabus to cover instruction in health in the elementary and high schools. Considerable work has been done on the preparation of a syllabus on physical education in the elementary schools.

NEWS NOTES

A contract has been let for the construction of a thirty bed addition to St. Joseph's Hospital at Boonville.

The St. Louis Medical Society has taken cognizance of the smoke problem in that city following a meeting at which the subject was discussed on March 1. The president of the society, Dr. C. A. Vosburgh, has appointed on this committee Drs. E. C. Funsch, chairman; C. H. Shutt, F. S. Haeberle, George J. Epp, C. E. Coffee, E. A. Babler, F. J. V. Krebs, T. P. Brooks, Frances Bishop and Sam T. Bassett.

Drs. A. E. Gore and D. F. Manning, Marshall, announce the formation of a partnership beginning April 1, with offices in the Farmers Savings Bank Building. Dr. Gore is resuming general practice but will continue the use of the X-ray as heretofore.

Under a decision of the Missouri Supreme Court, which has denied the appeal of Dr. Ray B. Horton, Purdy, Missouri, the State Board of Health will proceed to prosecute the charges already filed against Dr. Horton of obtaining his license to practice medicine on fraudulent representations. The Board of Health has set the trial for April 22 in St. Louis.

The Missouri State Commission on Crippled Children is now organized and composed of the following members: Dr. A. H. Baldwin, Pleasant Hill, Representative of Cass County, President; Mr. Charles A. Lee, Jefferson City, State Superintendent of Schools, Secretary; Dr. Rexford L. Diveley, Kansas City, Orthopedist; Senator B. T. Gordon, Liberty, and Dr. James Stewart, Jefferson City, State Health Commissioner.

The Missouri-Kansas Neuropsychiatric Society met at the University Club, Kansas City, Mo., February 16, 1927. Dr. E. T. Gibson, Kansas City, presented for diagnosis a case presenting a cerebellar syndrome. Dr. N. R. Smith, Halstead, Kansas, read a paper on "Anxiety as an Etiological Factor in Organic Disease." Dr. Franklin G. Ebaugh, Denver, Colorado, spoke on the "Treatment of Paresis by Malaria."

The erection of a county hospital at Louisiana has been made possible through the merging of two funds, one fund established by the late Susanneli Barr and the other left by the late Otis Smith, of New York, both funds being established for the purpose of erecting a hospital in Louisiana. The Barr fund amounts to \$25,000, the Smith fund to \$100,000. Plans for the building of a fifty bed hospital to cost \$140,000 are being drawn by St. Louis architects. When the building is completed and equipped the hospital will be turned over to Pike County for maintenance.

The American Association for the Study of Allergy is to hold its fifth annual meeting in Washington, D. C., at the Washington Hotel, May 16 and 17. A dinner is to be given at which Dr. Arthur F. Coca is to deliver an ad-

dress on "The Pathology of Atopic Hypersensitiveness." All Physicians Interested in the Subject of Allergy are Invited to Attend the Daily Sessions and to be Present at the Dinner. Reservations for the dinner may be made with the secretary, Dr. Albert H. Rowe, 242 Moss Avenue, Oakland, California. A check of \$4.00 for the dinner should accompany each reservation. The program covers many phases of the subject of allergy and presents an outstanding symposium on the subject by specialists from all parts of the United States and Canada.

Dr. George Clark Mosher, Kansas City, appeared by invitation before the Women's Auxiliary of the Jefferson County (Kentucky) Medical Society at Louisville, February 7, and gave an address to the senior and junior classes of the University of Louisville Medical School, and another to the Louisville Obstetrical Society and the Jefferson County Medical Society. On February 8, Dr. Mosher was invited to talk to the students of the Medical Department of the University of Cincinnati on "Obstetricians of the 19th Century," and that evening he read a paper before the Cincinnati Obstetrical Society. On February 9, Dr. Mosher gave a lecture before the senior and junior classes of the Medical Department of Ohio State University on "Medical Biography." These talks were sponsored by the American Association of Obstetricians.

The fortieth anniversary of the Medical Society of the Missouri Valley will be celebrated in Des Moines, Iowa, September 14, 15 and 16, and a banner meeting is expected. The program committee is at work assembling papers. The major portion of the essayists will be drawn from the universities of the Missouri Valley states. The arrangements under the direction of Dr. Granville Ryan are progressing rapidly and a splendid entertainment is being prepared. Hotel Fort Des Moines will be the headquarters and the sessions will be held in the new Shrine Auditorium with the exhibits on the lower floor. The officers of the Society are: President, Dr. Thos. G. Orr, Kansas City; secretary, Dr. Chas. Wood Fassett, Kansas City. Dr. Donald Macrae, Council Bluffs, Iowa, is chairman of the executive committee having the program in charge. At this meeting there will be a complete reorganization of the Society. An effort will be made to present at future meetings the newest research and clinical investigations developed in the Valley. In addition, several clinicians and scientists of note will be on each program.

Dr. P. S. Tate of St. Louis has been appointed first assistant physician of State Hospital No. 4 at Farmington.

The Radiological Review is a journal of radiology edited for the practicing physician and non-radiologic specialist. It has doubled its former number of pages, begun monthly from bi-monthly publication, and effected the organization of perhaps the most representative editorial board in the field of radiological journalism.

The gift of a million dollars to Washington University for the establishment of a radiological institute, announced March 29 by the University, will enable the medical school to establish in St. Louis one of the most important centers for the study of cancer to be found in the country. The money was donated by the Mallinckrodt family of St. Louis and the General Education Board of the Rockefeller Foundation.

The United States District Court at Tampa, Florida, wrote finis to the career of Dr. Geo. A. Munch, former Secretary of the Florida State Board of Eclectic Medical Examiners, when the Court sentenced him to five years in the Atlanta penitentiary and fined him \$1,000 for using the mails to defraud. Witnesses testified that Munch sold diplomas, some of them for as much as \$1,000, the diplomas being sent to Munch through the United States mails. One of the witnesses for the government was Dr. Samuel McCubbin, of Kansas City, against whom charges had been filed but were dropped by the attorney for the government, when McCubbin testified against Munch.

The transportation committee of the Jackson County Society has arranged for a special through car to Washington for the A. M. A. meeting on trains leaving Kansas City Friday, Saturday and Sunday evening, May 13, 14 and 15. These will be attached to the 7:45 p. m. Santa Fe trains each evening and in Chicago will be transferred to the de luxe B. & O. Capital Limited train leaving at 1 p. m. Arrival in Washington is at 9 a. m. the next morning. No extra fare is charged on either train. This allows about five hours in Chicago without the necessity of changing hand baggage as it can be left in the special car in charge of the porter. Returning the Santa Fe offers 6 trains daily. The round trip fare on the certificate plan from Kansas City is \$63.87. Lower double berth is \$12.00 each way. Have you made your Hotel Reservation? Address Dr. Joseph W. Kimberlin, Chairman Committee on Transportation, 900 Rialto Building, Kansas City.

OBITUARY

A. S. HERNDON, M.D.

Dr. A. S. Herndon, Camden Point, 64 years old, died at his home, Tuesday, March 1, 1927, of pneumonia.

Dr. Herndon graduated in medicine from the Kansas City Medical College in 1889. For more than forty years he practiced medicine in Platte County. He was a member of the Platte County Medical Society, the Missouri State Medical Association and a Fellow of the American Medical Association. He had served as president of the Platte County Medical Society and as that Society's delegate to the State Association annual meeting. He is survived by one son and one daughter.

When Dr. Herndon's son, Elbert Perrin Herndon, sports editor of the *Corpus Christi Caller*, Corpus Christi, Texas, was notified of the grave condition of his father Monday he immediately boarded the N. A. T. mail plane at Dallas bound for Kansas City, but he arrived at Camden too late.

ELMO P. PORTERFIELD, M.D.

Dr. Elmo P. Porterfield, St. Louis, 53 years old, died at his home Friday, March 4, 1927.

Dr. Porterfield received his preliminary education in the State Normal School and Northwestern University and was graduated in medicine from Rush Medical College, Chicago, in 1899. For a number of years he practiced in Cape Girardeau where he served as local surgeon for the Missouri Pacific Railroad. He later moved to St. Louis where he continued in practice until the time of his death. He had been in ill health for several years. He was a member of the St. Louis Medical Society and of the State Medical Association. He is survived by his widow and three daughters.

ROBERT BARCLAY, M.D.

Dr. Robert Barclay, St. Louis, well known ear, nose and throat specialist, 69 years old, died at his home, Saturday, February 26, 1927, of heart disease.

Dr. Barclay was a member of the St. Louis Medical Society, the Missouri State Medical Association, and a Fellow of the American Medical Association. He was born in St. Louis, May 8, 1857, the son of David Robert Barclay, lawyer and journalist, author of Barclay's Digest and at one time editor and owner of the St. Louis *Dispatch*. He received his preliminary education in the common schools of St. Louis and Alexandria, Virginia, graduated from Trinity College at Hartford, Conn., and

in medicine from the medical department of Columbia University, New York.

In Dr. Barclay's death the St. Louis Medical Society, the State Association and organized medicine as a whole, lost a valued member. His was a life of usefulness and service to his fellow men. He possessed in a great degree that rarest and greatest of all virtues, charity. He was a scholar and an ardent reader of the classics from which he derived much inspiration. He invented several instruments of precision that he used in surgery of the ear. A pioneer in aural surgery he assiduously advocated an operation for the cure of deafness which has found many adherents in this county and in Europe. His life was an active one and the world is richer for his having lived. He was a contributor to many medical publications and had the distinction of being the aurist at the Missouri Pacific Railway Hospital for forty years.

He is survived by his wife and three sons.

The following is taken from the St. Louis Medical Society *Bulletin*.

We are indebted to Dr. Ravold for the following lines which he received anonymously printed and published, together with a very striking and life-like photograph of the late Dr. Barclay. We feel sure that every one will be pleased to read this beautiful tribute to our departed friend:

He gave his best efforts to all that he cared for
Without ever counting the cost;
No thought of himself in the causes he dared for—
Who is there can say that he lost?
He built an estate that is equalled by few,
For when his time came to depart,
He left something priceless to all that he knew,
Locked safe in the depths of each heart.

He always fought misery, sickness and woe
The way that a true fighter should;
And said he'd keep on till the moment to go,
Still doing the best that he could,
"With his boots on, his head up and facing the foe"—
And he did as he said that he would;

Then calmly and gamely he answered the call
And went like a man to the Father of all.
What better example
Can any man give
Than shows, by his dying,
The way we should live?

NOEL E. LAKE, M.D.

Dr. Noel E. Lake was born July 14, 1876, at Palmyra, Missouri, and after having completed a high school course, was graduated by the University Medical School, Kansas City, Missouri, in 1904. He served his internship at St. Joseph's Hospital immediately after graduation.

Dr. Lake was found dead in his office February 16, 1927. He had an unusually

clear, logical mind, which qualified him for a successful professional life. He was interested in organized medicine, but was, early in his career, beset with physical handicaps that materially lessened his activity in medical societies. He was a member of the local, state, and national associations. He was a member of the staff of St. Joseph's Hospital where he was held in high esteem by the sisters and his professional associates.—*Bulletin Jackson County Medical Society*.

GEORGE O. HAMMERSLEY, M.D.

Dr. George O. Hammersley, Caruthersville, 59 years old, died suddenly in his office, Tuesday, March 22, 1927, of heart disease.

Dr. Hammersley was a member of the Pemiscot County Medical Society and of the State Association. He was graduated in medicine from the Memphis Medical College, Memphis, Tennessee, in 1900 and for a number of years practiced his profession in Campbell, Missouri, moving to Caruthersville about five years ago.

JOHN WELLINGTON MARSH, M.D.

Dr. John Wellington Marsh, Tipton, 67 years old, died at his home, Tuesday, March 29, 1927, of paralysis.

Dr. Marsh was a member of the Moniteau County Medical Society and of the State Association. He was graduated in medicine from the Missouri Medical College, St. Louis, in 1881 and for forty years practiced his profession in Tipton. He had served as county health officer for Moniteau County and as censor for the Moniteau County Medical Society.

MISCELLANY

AN APPRECIATION COMMENT

From the St. Louis Medical Society *Bulletin* we clip an appreciation comment of Dr. Alonzo R. Kieffer, the founder of the movement to build a home for the St. Louis Medical Society and former president of our Association. This comment was written by the editor of the *Bulletin* and is here reproduced for the benefit of the friends of Dr. Kieffer residing in other parts of the state. The comment follows:

A Chat With Dr. A. R. Kieffer

Just the other day we dropped in on our old friend Dr. A. R. Kieffer and had a very delightful chat with him. It occurred to us that a few words about this stalwart surgical Trojan might still further serve to bind him to us with more—but not

stronger—bonds of affection and respect. Dr. Kieffer discerned our purpose when we drew him out about some points in his career about which we were a bit hazy, and warned us not to praise him too much—but it is very easy for a designing reporter to overcome a man so kindly, so gentle, so straightforward. We came away from his office, feeling a sense of pride in knowing Dr. Kieffer as one of our oldest and best friends. Who would not be proud of the friendship of a man who has done so much in medicine and surgery in this city and in this Society?

Dr. Kieffer graduated at the old Missouri Medical College in 1879, just forty-six years ago. In four more years he will have practiced medicine fifty years. We shall certainly help to celebrate his golden anniversary as a surgeon at that time. "There are many events in the womb of time, which shall be delivered" and this shall be one of them. But we came to indulge in retrospection not in futurity. Young Kieffer as a green country boy came to the city fairly athirst for knowledge. Medicine beckoned him and in that old school of medicine which developed so many leaders in medicine in this Valley, he quickly made his mark and early displayed that interest in anatomy which is the very basis of every good surgeon's training. He related how a warm friendship sprung up between the country boy student and the energetic, brilliant teacher, the late Dr. Herman Tuholske—a friendship that lasted throughout many years until his erstwhile teacher passed away. Dr. Kieffer was prevented from serving his internship in the City Hospital because he was called home to the bedside of his sick mother where to use his own language, he "let everything go" to attend her. Thus he gave up for this filial task his ambition to be a trained intern. Those of us who prize this internship may well understand the sacrifice that was here made, a sacrifice that changed the whole current of this man's life, for he became a country doctor in Benton County, far removed from contact with medical advances, instead of a city doctor, with a desire to be surrounded by his bustling colleagues and to continue his anatomical studies. But who may say that this experience in any way proved disastrous to his career? Out of this country practice he came to St. Louis, after thirteen years, a seasoned practitioner, one who had faced and mastered problems that only those who have passed through country practice of that period may properly appreciate.

We find him in this city in 1892. He lectured in the old Barnes Medical College from that time until 1918. For eleven years he taught anatomy. He was a teacher of anatomy and surgery for twenty six years. He was treasurer of the St. Louis Medical Society for eight years, president of this Society in 1904 and president of the State Society in 1908. He conceived the idea of a home for the Society in those early days when he was first elected treasurer. He again and again emphasized this need, when the Society had no home and floated from place to place for its meetings. The splendid edifice which we occupy today doubtless indirectly resulted from Dr. Kieffer's warm and continuous advocacy of a permanent home.

Throughout all these years Dr. Kieffer did surgery and today we find him master of his art, daily operating in the hospital, doing his job and doing it well. His judgment based upon so many years of practice is second to none; his technique is all that could be asked. Yet who are we to tell his friends and admirers that he is a capable surgeon? That indeed were a work of supererogation. And besides we do not wish to embarrass our friend as he reads these few lines of appreciation. Rather did we simply want to remind our colleagues, those who know him and those who have been unfortunate in not know-

ing him, that our Society has among its fine membership one who has always been a great credit to the profession, a surgeon, a physician, an anatomist, teacher, a pioneer, a medical organization man, straightforward, right-minded, a *preux Chevalier*, *sans peur et sans reproche*. It is a great privilege to have him with us and we raise the stirrup cup to wish him a long life of continued usefulness.

SPECIAL TRAIN TO WASHINGTON FOR MEETING OF AMERICAN MEDICAL ASSOCIATION

For the American Medical Association convention which will be held in Washington, D. C., May 16 to 20, 1927, the Baltimore and Ohio Railroad will provide an all steel special train leaving St. Louis 12:00 noon Sunday, May 15, arriving Washington 12:45 noon Monday, May 16.

This train will consist of club car, observation-library-lounge car, open section, compartment and drawing room, sleeping cars and dining car. National Limited service includes train secretary, valet, barber, maid, manicure and shower bath, telegraph and mail service, and a Filipino attendant will be stationed in the club car to serve you.

For those who will be unable to leave on special train, the Baltimore and Ohio have the following daily trains:

Leave St. Louis, 12:00 noon; arrive Washington, 12:45 noon.

Leave St. Louis, 9:30 p. m.; arrive Washington, 2:00 a. m.*

*Passengers may occupy sleeper in Washington terminal until 7:30 a. m.

The route follows the Potomac River and at Harpers Ferry crosses to the Maryland side and continues on to Washington, D. C.

Rates

The rate of one and one-half fares for the round trip, namely \$48.81, from St. Louis on the certificate plan has been authorized. Tickets will be on sale May 12 to 15, return limit May 24, 1927. (No extra fare from St. Louis on Baltimore and Ohio trains.) Side trip Washington to New York and return, \$16.28. Correspondingly reduced fares from other points.

Pullman Fares

St. Louis to Washington; lower berth, \$9.00; upper berth, \$7.20; compartment, \$25.50; drawing room, \$31.50.

Dining Car Arrangements

Regular service will be provided for all meals enroute. There is a la carte and table d'hôte service with club breakfast ranging in price from fifty cents to one dollar. An outstanding feature is the Baltimore and Ohio Special Dinner at \$1.25.

For Pullman reservations, or additional information, or if you desire a "guide to Washington," "Harpers Ferry" or "Picturesque Potomac" pamphlet, address Mr. J. G. VanNorsdall, assistant general passenger agent, Baltimore and Ohio Railroad, 435 Boatmen's Bank Building, St. Louis, Mo., or to Dr. E. J. Goodwin, Secretary, Missouri State Medical Association, 901 Missouri Building, St. Louis, Mo. Please make your Pullman reservations early so that satisfactory accommodations may be provided. A Baltimore and Ohio representative will accompany the train, looking after all details including return reservations.

REPORT ON ACCOUNTS
OF THE
MISSOURI STATE MEDICAL ASSOCIATION
JULY 1, TO DECEMBER 31, 1926

KESSLER, CARTALL & Co.
CERTIFIED PUBLIC ACCOUNTANTS
LA SALLE BUILDING
ST. LOUIS, Mo.

March 22, 1927

Missouri State Medical Association,
St. Louis, Missouri.
Gentlemen:—

We have completed our examination of the accounts of the Missouri State Medical Association for the six months ended December 31, 1926 and have prepared therefrom the following attached statements:

- Exhibit "A" Balance Sheet, December 31, 1926.
- Exhibit "B" Statement of Income and Expenses for the Year 1926.
- Exhibit "C" Statement of Cash Receipts and Disbursements—General Fund, July 1, 1926 to December 31, 1926.
- Exhibit "D-1" Statement of Cash Receipts and Disbursements—Legislative Fund, July 1, 1926 to December 31, 1926.
- Exhibit "D-2" Statement of Cash Receipts and Disbursements—Sinking Fund, July 1, 1926 to December 31, 1926.
- Exhibit "D-3" Statement of Cash Receipts and Disbursements—Defense Fund, July 1, 1926 to December 31, 1926.
- Exhibit "E" Dues Receivable and Membership by Counties, Dec. 31, 1926.

The following comments are explanatory of the attached statements:

COMMENTS

CASH: (\$10,436.51)

A summary of the cash account follows:

General Fund—Traders Bank, Salisbury Mo.	\$5,559.95
General Fund—Secretary's Expense Fund	253.86
	<hr/>
Legislative Fund—Traders Bank, Salisbury, Mo.	\$ 5,813.81
General Fund—Traders Bank, Salisbury, Mo.	3,142.86
	<hr/>
Defense Fund—Traders Bank, Salisbury, Mo.	658.57
	<hr/>
Defense Fund—Traders Bank, Salisbury, Mo.	821.27
	<hr/>
Total	<u>\$10,436.51</u>

The cash in bank was verified with a certificate obtained from the Traders Bank, of Salisbury, Missouri. Interest is paid annually on these funds and the accrued interest to December 31, 1926 in the sum of \$235.88 has been included in the attached Exhibits "A" and "B." Exhibits "C" and "D" show the details of the cash receipts and disbursements for the six months ended December 31, 1926.

ACCOUNTS RECEIVABLE—ADVERTISERS. (\$744.26)

This item represents the amount receivable for advertising space in the Journal published by the Association and is stated as reflected by the books without direct confirmation by the debtors. As heretofore, the values of the items furnished by reciprocal advertisers in exchange for advertising space have not been included in the attached statements of receipts and disbursements.

DUES RECEIVABLE: (\$3,158.00)

The members' dues accounts were reviewed by us as of December 31, 1926 and unpaid dues in the sum of \$3,158.00 were noted, which we have summarized

by counties in Exhibit "E." The dues receivable are as follows:

Year 1923	\$ 20.00
Year 1924	230.00
Year 1925	600.00
Year 1926	2,680.00
	<hr/>
Total	\$3,530.00
Less:—Prepaid Dues	\$335.00
Unapplied credits	37.00
	<hr/>
Net Total December 31, 1926	<u>\$3,158.00</u>

As the dues are taken into income on a cash basis a Reserve for Uncollected Dues equal to the Dues Receivable in the sum of \$3,158.00 has been set up in the attached Balance Sheet.

The records show that the Association at December 31, 1926 was composed of 3,307 members.

FURNITURE AND FIXTURES: (\$1,284.50)

On June 30, 1926 an estimated depreciated value of \$1,150.00 was placed on the furniture and fixtures and the purchases since that date in the sum of \$134.50 have been added thereto. No depreciation has been deducted for the period under review. The furniture and fixtures are insured against loss by fire to the extent of \$1,000.00.

ACCOUNTS PAYABLE: (\$203.90)

This account represents the Association's liability for supplies and expenses at December 31, 1926 and includes all accounts payable of which we had knowledge.

A contingent liability of \$3,100.00 exists in connection with pending malpractice suits.

GENERAL COMMENTS:

The operations of the Association for the year 1926 resulted in an excess of income over expenses in the sum of \$5,142.82, as shown in Exhibit "B" annexed hereto. The cash receipts as recorded on the cash book for the period under review have been traced into the bank accounts and the disbursements have been verified with checks, approved vouchers and invoices.

The following surety bonds were inspected:

- Massachusetts Bonding and Insurance Company, No. F-119097
- E. J. Goodwin—\$1,000.00.
- Massachusetts Bonding and Insurance Company, No. F-127128
- G. W. Hawkins—\$20,000.00.

Several minor clerical errors were noted for the period under review, but the general condition of the records examined was satisfactory. Should you desire any further information regarding the attached statements, we shall be pleased to furnish it upon request.

Yours very truly,

KESSLER, CARTALL & Co.
Certified Public Accountants.

MISSOURI STATE MEDICAL ASSOCIATION
BALANCE SHEET, DECEMBER 31, 1926

EXHIBIT "A"
ASSETS

Cash:	
General Fund (Exhibit "C")	\$5,813.81
Legislative Fund (Exhibit "D-1")	3,142.86
Sinking Fund (Exhibit "D-2")	658.57
Defense Fund (Exhibit "D-3")	821.27
	<hr/>
	\$10,436.51
Accrued Interest on Fund Balances	235.88
Accounts Receivable—Advertisers	744.26
Dues Receivable (Exhibit "E")	3,158.00
Furniture and Fixtures (Book Value)	1,284.50
	<hr/>
	<u>\$15,859.15</u>

LIABILITIES

Accounts Payable:	
Supplies and Expenses	\$ 203.90
Reserve for Uncollected Dues	3,158.00

Fund Reserves:	
General	\$5,813.81
Legislative	3,142.86
Sinking	658.57
Defense	821.27
	<u>10,436.51</u>
Surplus	2,060.74
	<u>\$15,859.15</u>

NOTE: Contingent liability to members on pending malpractice suits, \$3,100.00

STATEMENT OF INCOME AND EXPENSES FOR THE YEAR 1926

EXHIBIT "B"

Income:	
Dues paid	\$22,968.00
Advertising—Journal	8,862.87
Subscriptions—Journal	55.00
Interest	461.98
Bad Accounts recovered	50.00
Total	<u>\$32,397.85</u>
Expenses:	
Badges	\$ 130.00
Cash Discount—Advertisers	356.13
Commissions on Advertising	835.68
Defense Malpractice Suits	300.00
Donations	300.00
General Expense	979.43
Insurance	52.50
Journal Expense	7,701.93
Legal Expense	637.80
Legislative Expense	2,257.62
Meetings	1,122.20
Office Rent and Light	962.45
Office Salaries	3,127.38
Officers' Salaries	5,100.00
Postage	914.62
Printing, Stationery and Office Supplies	936.03
Telephone and Telegraph	851.81
Traveling Expense	689.45
Total	<u>27,255.03</u>
Excess of Income over Expenses	<u>\$ 5,142.82</u>

FUND RESERVES AND SURPLUS

Balance January 1, 1926	\$ 7,354.43
Add: Excess of Income over Expenses ..	5,142.82
Balance December 31, 1926	<u>\$12,497.25</u>
Distributed as follows:	
General Fund Reserve	\$ 5,813.81
Legislative Fund Reserve	3,142.86
Sinking Fund Reserve	658.57
Defense Fund Reserve	821.27
Surplus Fund Reserve	2,060.74
Total Fund Reserves and Surplus	<u>\$12,497.25</u>

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS—GENERAL FUND—JULY 1, TO DECEMBER 31, 1926

EXHIBIT "C"

Balance July 1, 1926	\$10,732.92
Receipts:	
Journal Advertising	\$3,558.54
Membership Dues (Includes \$1.00 per member for journal subscriptions) ..	2,855.00
Subscriptions to Journal (Non-members)	27.50
Traveling Expense Refund	7.08
Office Rent	135.00
Bad Accounts recovered	33.33
Commissions on Advertising—Refund ..	571.23
	<u>7,187.68</u>
Total	<u>\$17,920.60</u>
Disbursements:	
Cash transferred to Legislative Fund ..	\$ 525.00
Office Supplies	336.38
Journal Expense	3,178.71
General Expense	702.76
Officers' Salaries	2,400.00
Office Salaries	1,510.05
Traveling Expenses	317.03
Telephone	428.63
Rent and Light	700.95
Furniture and Fixtures	134.50
Meetings	821.40

Legal Expense	137.80
Dues Refunded	23.00
Commissions Paid	15.60
Postage	650.14
Printing and Stationery	224.84
	<u>12,106.79</u>
Balance December 31, 1926	<u>\$ 5,813.81</u>

Consists of:

Traders Bank Account, Salisbury, Mo.	\$5,559.95
Secretary's Expense Fund	253.86
Total	<u>\$5,813.81</u>

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS JULY 1, TO DECEMBER 31, 1926

EXHIBIT "D-1"

LEGISLATIVE FUND

Balance July 1, 1926	\$4,736.58
Receipts:	
Transferred from General Fund	525.00
	<u>\$5,261.58</u>
Disbursements:	
Meeting Expense	\$ 568.72
Information Service	150.00
Legal Expense	1,400.00
	<u>2,118.72</u>
Balance December 31, 1926—Traders Bank, Salisbury, Mo.	<u>\$ 3,142.86</u>

EXHIBIT "D-2"

SINKING FUND

Balance July 1, 1926	\$ 658.57
Receipts	
Disbursements	
Balance December 31, 1926—Traders Bank, Salisbury, Mo.	<u>\$ 658.57</u>

EXHIBIT "D-3"

DEFENSE FUND

Balance July 1, 1926	\$ 921.27
Disbursements:	
Defense in Malpractice Suits	100.00
Balance December 31, 1926, Traders Bank, Salisbury, Mo.	<u>\$ 821.27</u>

DUES RECEIVABLE AND MEMBERSHIP BY COUNTIES—DECEMBER 31, 1926

EXHIBIT "E"

DUES RECEIVABLE

Particulars	Years 1923 and 1924	Year 1925	Year 1926	Total Dues Receiv- able	No. of Mem- bers
Adair	\$	\$ 5.00	\$ 8.00	\$ 13.00	11
Atchison .....	.....	.....	.....	.....	14
Audrain .....	.....	.....	16.00	16.00	23
Barry	5.00	10.00	24.00	39.00	13
Barton .....	.....	.....	8.00	8.00	10
Bates .....	.....	.....	.....	.....	15
Benton .....	.....	.....	32.00	32.00	13
Boone .....	.....	.....	16.00	16.00	36
Buchanan	10.00	15.00	48.00	73.00	129
Butler	5.00	10.00	32.00	47.00	15
Caldwell .....	.....	.....	32.00	32.00	17
Callaway	5.00	5.00	16.00	26.00	17
Camden .....	.....	.....	.....	.....	3
Cape Girardeau ..	.....	.....	24.00	24.00	33
Carroll	10.00	20.00	32.00	62.00	15
Carter-Shannon ..	.....	.....	.....	.....	8
Cass	10.00	10.00	32.00	52.00	25
Chariton .....	.....	.....	.....	.....	20
Christian .....	.....	.....	8.00	8.00	10
Clark .....	.....	.....	16.00	16.00	6
Clay .....	.....	.....	8.00	8.00	33
Clinton	5.00	15.00	40.00	60.00	15
Cole .....	.....	.....	24.00	24.00	27
Cooper .....	.....	.....	8.00	8.00	18
Crawford .....	.....	.....	8.00	8.00	7
Dade	5.00	5.00	8.00	18.00	1
Dallas	5.00	5.00	32.00	42.00	5
Daviess .....	.....	.....	24.00	24.00	13

DeKalb	.....	.....	40.00	40.00	8
Dent	.....	.....	.....	.....	4
Dunklin	10.00	25.00	72.00	107.00	23
Franklin	.....	.....	.....	.....	19
Gasconade	.....	5.00	40.00	45.00	14
Gentry	5.00	10.00	32.00	47.00	14
Greene	10.00	20.00	120.00	150.00	99
Grundy	.....	15.00	56.00	71.00	19
Harrison	.....	.....	32.00	32.00	13
Henry	.....	.....	16.00	16.00	23
Holt	.....	.....	.....	.....	14
Howard	.....	.....	.....	.....	14
Howell	.....	.....	.....	.....	26
Iron	.....	.....	.....	.....	3
Jackson	.....	.....	104.00	104.00	530
Jasper	10.00	30.00	72.00	112.00	64
Jefferson	.....	.....	8.00	8.00	14
Johnson	5.00	5.00	16.00	26.00	18
Knox	.....	20.00	40.00	60.00	10
Laclede	.....	.....	.....	.....	13
Lafayette	.....	5.00	24.00	29.00	31
Lawrence-Stone	5.00	15.00	80.00	100.00	29
Lewis	.....	5.00	8.00	13.00	8
Linn	15.00	15.00	16.00	46.00	21
Livingston	5.00	10.00	56.00	71.00	17
Macon	.....	.....	32.00	32.00	13
Madison	.....	.....	.....	.....	6
Marion	.....	10.00	32.00	42.00	23
Mercer	.....	15.00	40.00	55.00	11
Miller	5.00	5.00	16.00	26.00	9
Mississippi	5.00	5.00	8.00	18.00	9
Moniteau	.....	.....	8.00	8.00	9
Monroe	.....	.....	.....	.....	8
Montgomery	.....	.....	8.00	8.00	7
Morgan	.....	.....	.....	.....	2
New Madrid	5.00	10.00	48.00	63.00	14
Newton	5.00	10.00	16.00	31.00	16
Nodaway	10.00	15.00	32.00	57.00	29
Pemiscot	5.00	5.00	32.00	42.00	19
Perry	.....	5.00	24.00	29.00	9
Pettis	.....	.....	.....	.....	40
Phelps	.....	5.00	48.00	53.00	16
Pike	.....	.....	32.00	32.00	11
Platte	.....	.....	.....	.....	15
Polk	10.00	15.00	40.00	65.00	7
Pulaski	.....	5.00	16.00	21.00	10
Putnam	.....	.....	24.00	24.00	8
Randolph	.....	5.00	24.00	29.00	34
Ray	.....	.....	8.00	8.00	16
Reynolds	.....	.....	.....	.....	5
Rolla	.....	.....	.....	.....	3
St. Charles	.....	.....	8.00	8.00	23
St. Clair (1923)...	20.00	.....	48.00	128.00	8
St. Clair (1924)...	30.00	30.00	.....	.....	.....
St. Francois	10.00	50.00	144.00	204.00	23
St. Genevieve	.....	5.00	8.00	13.00	6
St. Louis	.....	.....	8.00	8.00	55
Saline	.....	.....	.....	.....	33
Schuyler	.....	.....	8.00	8.00	6
Scotland	.....	5.00	16.00	21.00	6
Scott	.....	.....	24.00	24.00	24
Shelby	.....	5.00	32.00	37.00	14
Stoddard	.....	15.00	32.00	47.00	17
Sullivan	5.00	5.00	16.00	26.00	10
Taney	.....	.....	8.00	8.00	5
Texas	.....	.....	16.00	16.00	13
Vernon-Cedar	.....	.....	16.00	16.00	32
Wayne	.....	.....	40.00	40.00	9
Webster	.....	.....	8.00	8.00	11
Worth	.....	.....	8.00	8.00	1
Wright-Douglas	5.00	15.00	48.00	68.00	17
St. Louis City....	10.00	80.00	376.00	466.00	1,045
Totals	250.00	\$600.00	\$2,680.00	\$3,530.00	3,307

Less Prepaid Dues and Unapplied Credits:

Barry	.....	\$ 8.00
Buchanan	.....	16.00
Camden	.....	15.00
Clark	.....	8.00
Crawford	.....	8.00
Holt	.....	8.00
Jackson	.....	32.00
Lafayette	.....	72.00
Nodaway	.....	8.00
Perry	.....	32.00
St. Louis	.....	8.00
St. Louis City....	.....	120.00
Total Prepaid Dues.....	.....	\$335.00
Pemiscot	.....	\$ 3.00
Grundy	.....	3.00
Jasper	.....	3.00
Greene	.....	3.00
Barry	.....	3.00
Howard	.....	8.00
Wayne	.....	3.00

Newton	.....	8.00
St. Charles	.....	3.00
Total Unapplied Credits.....	.....	\$ 37.00
Total Credits	.....	372.00
Net Dues Receivable December 31, 1926	.....	\$3,158.00

MISSOURI STATE MEDICAL ASSOCIATION

At the St. Louis session of the Association in 1926 the Committee on Revision of the Constitution and By-Laws introduced a model form of Constitution and By-Laws for constituent state medical associations approved by the American Medical Association, to take the place of our present Constitution and By-Laws. In accordance with the requirements of the present constitution this copy is sent to all county societies in time for them to take action before the State Association meets at Sedalia, May 2, 1927.

The new Constitution and By-Laws follow:

CONSTITUTION

ARTICLE I.—NAME OF THE ASSOCIATION

The name and title of this organization shall be the Missouri State Medical Association.

ARTICLE II.—PURPOSE

The purposes of this Association are to promote the science and art of medicine, the protection of public health, and the betterment of the medical profession; and to unite with similar organizations in other states and territories of the United States to form the American Medical Association.

ARTICLE III.—COMPONENT SOCIETIES

SECTION 1. Component Societies shall consist of those county medical societies which hold charters from this Association.

SEC. 2. The terms, county medical society and component county medical society, shall be deemed to include all county medical societies and academies of medicine now in affiliation with this Association, or which may hereafter be organized and chartered by the House of Delegates of this Association.

ARTICLE IV.—COMPOSITION OF THE ASSOCIATION

This Association shall consist of members who shall be the members of the component county medical societies who have been certified to the headquarters of this Association, and whose dues and assessments for the current year have been received by the Secretary.

ARTICLE V.—HOUSE OF DELEGATES

The House of Delegates shall be the legislative body of the Association, and shall consist (1) of delegates elected by the component county societies, and (2) the officers of the Association enumerated in Section 1 of Article IX of this constitution.

ARTICLE VI.—COUNCIL

The Council shall be the Board of Trustees of this Association. The Council shall have full authority and power of the House of Delegates between annual sessions, unless the House of Delegates shall be called into session as provided in the Constitution and By-Laws. It shall consist of the Councilors, the President, the President-Elect, the Secretary and the Treasurer of the Association. Nine of its members shall constitute a quorum.

ARTICLE VII.—SECTIONS AND DISTRICT SOCIETIES

The House of Delegates may provide for a division of the scientific work of the Association into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best

interests of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE VIII.—SESSIONS AND MEETINGS

SECTION 1. The Association shall hold an Annual Session during which there shall be at least two General Meetings, open to all registered members, delegates and guests.

SEC. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates, or such authority may be delegated to the Council.

SEC. 3. Special meetings of either the Association or the House of Delegates may be called by a two-thirds vote of the Council or upon petition by twenty delegates.

ARTICLE IX.—OFFICERS

SECTION 1. The officers of this Association shall be a President, a President-Elect, a Secretary, a Treasurer, and twenty nine Councilors, more or less as shall be determined by the House of Delegates from time to time.

SEC. 2. The officers, except the Councilors, shall be elected annually. The terms of the Councilors shall be for two years; one half the members of the Council shall be elected each year. The Secretary and the Treasurer shall be elected by the Council. All these officers shall serve until their successors are elected and installed.

ARTICLE X.—FUNDS AND EXPENSES—BUDGET

Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates. Funds may also be raised by voluntary contributions, from the Association's publications and in any other manner approved by the House of Delegates. The Council shall submit an annual budget to the House of Delegates. All resolutions providing for appropriations shall be referred to the Council and all appropriations approved by the Council shall be included in the annual budget.

ARTICLE XI.—REFERENDUM

At any general meeting of the Association it may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates. The House of Delegates may, by a vote of its members, submit any question to the membership of the Association for its vote. A majority vote of all the members of the Association shall determine the question.

ARTICLE XII.—SEAL

The Association shall have a common seal. The power to change or renew the seal shall rest with the House of Delegates.

ARTICLE XIII.—AMENDMENTS

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the Delegates present at any Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session, and that it shall have been published twice during the year in The Journal of this Association, or sent officially to each component society, at least two months before the meeting at which final action is to be taken.

BY-LAWS

CHAPTER I.—MEMBERSHIP

SECTION 1. The name of a physician on the official roster of this Association, after it has been properly reported by the secretary of his county society, shall

be *prima facie* evidence of membership and of his right to register at the Annual Session.

SEC. 2. No person who is under sentence of suspension or expulsion from any component society of this Association, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Association.

SEC. 3. Each member in attendance at the Annual Session shall register, when his right to membership has been verified by reference to the records of this Association. No member shall take part in any of the proceedings of the Annual Session until he has complied with the provisions of this section of the By-Laws.

CHAPTER II.—GENERAL MEETINGS

SECTION 1. The General Meetings shall be open to all registered members and guests. Before them, at such time as may have been arranged, shall be delivered the annual addresses of the President and of the President-Elect and the annual orations.

SEC. 2. No address or paper, except those of the President, the President-Elect and the annual orations, shall occupy more than twenty minutes in its delivery. No member, except by unanimous consent, shall speak more than once in the discussion of any paper nor longer than five minutes at any one time.

SEC. 3. All papers read before this Association shall be its property. Each paper, when it has been read, shall be deposited with the Secretary. Authors of papers read before this Association shall not cause them to be published elsewhere until after they have been published in its Journal.

CHAPTER III.—HOUSE OF DELEGATES

SECTION 1. The House of Delegates shall meet annually at the time and place of the Annual Session. It shall remain in continuous session on the first day of the Annual Session and complete the work coming before it at that session. It shall meet on the third day of the Annual Session to receive the report of the Nominating Committee and complete unfinished business and the election of officers. No new business shall be introduced at this session without the unanimous consent of the delegates.

SEC. 2. Each component county society shall be entitled to send each year one delegate or one corresponding alternate to the House of Delegates for each fifty full-paid members or fraction thereof in this Association; provided, however, that each county society shall be entitled to at least one delegate or one corresponding alternate.

SEC. 3. Forty delegates shall constitute a quorum of the House of Delegates. All meetings of the House of Delegates shall be open to members of the Association.

SEC. 4. From among members of the House of Delegates the President shall appoint Reference Committees to which reports and resolutions shall be referred as follows:

Reference Committee on Amendments to the Constitution and By-Laws.

Reference Committee on Resolutions.

Reference Committee on Miscellaneous Affairs.

He shall also appoint a Committee on Credentials and such other committees as may be considered by him to be necessary.

SEC. 5. The House of Delegates shall elect delegates to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body.

SEC. 6. The House of Delegates shall upon application, provide and issue charters to county societies organized to conform to the spirit of this Constitution and By-Laws.

SEC. 7. The House of Delegates shall divide the

State into Councilor Districts, specifying what counties each district shall include, and, when the best interest of the Association and the profession will be promoted thereby, organize in each a district medical society, of which all members of the component county societies shall be members.

SEC. 8. The House of Delegates shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates. Such committees shall report to the House of Delegates, and may be present and participate in the debate on their reports.

SEC. 9. The House of Delegates shall approve an annual budget of expense to be submitted to it by the Council.

SEC. 10. It shall approve all memorials and resolutions issued in the name of the Association before they shall become effective.

CHAPTER IV.—ELECTION OF OFFICERS

SECTION 1. The President on the first day of the Annual Session shall select a committee on nominations consisting of ten delegates, no two of whom shall be from the same councilor district. The committee on nominations shall report the result of its deliberations to the House of Delegates in the form of a ticket containing the name of one member for each of the offices to be filled at that Annual Session, excepting the President-Elect, who shall be nominated from the floor of the House of Delegates. On the adoption of this section the nomination of the President for the succeeding year shall be made from the floor of the House. Each candidate for Councilor must be a resident of the district for which he is nominated.

SEC. 2. The report of the nominating committee and the election of officers shall be the first order of business of the House of Delegates at the second meeting of the House.

SEC. 3. All elections of officers shall be by ballot and a majority of the votes cast shall be necessary to elect except for delegates and alternates to the American Medical Association. In case no nominee receives a majority of the votes on the first ballot, the nominee receiving the lowest number of votes shall be dropped and a new ballot taken. This procedure shall be continued until one of the nominees receives a majority of all the votes cast, when he shall be declared elected. In case no delegates or alternates for the American Medical Association receive on the first ballot a majority of the vote, the nominees shall be declared elected in the order of the highest number of votes received, until the allotted number shall have been chosen. In case of a tie vote for delegate or alternate, the tie shall be determined by lot.

SEC. 4. Nothing in this chapter shall be construed to prevent additional nominations being made from the floor by members of the House of Delegates.

SEC. 5. No person known to have solicited votes for or sought any office within the gift of this Association shall be eligible for any office for two years.

SEC. 6. Delegates shall not be eligible for election to any of the offices named in the Constitution, except that of Councilor.

CHAPTER V.—DUTIES OF OFFICERS

SECTION 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for; he shall deliver an annual address at such time as may be arranged, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the state during his term of office, and, as far as practicable, shall visit, by appointment, the

various sections of the state and assist the Councilors in building up the county societies, and in making their work more practical and useful.

SEC. 2. The President-Elect shall be a member of the Council ex-officio, shall act for the President in his absence or disability. If the office of President should become vacant the President-Elect shall succeed to the presidency.

SEC. 3. The Treasurer shall give bond in the sum of \$20,000. He shall demand and receive all funds due the Association, together with bequests and donations. He shall pay money out of the Treasury only on a written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands.

SEC. 4. The Secretary shall attend the General Meetings of the Association and the meetings of the House of Delegates, and shall keep minutes of their respective proceedings in separate record books. He shall be Secretary of the Council and shall keep a record of its proceedings. He shall be custodian of all record books and papers belonging to the Association, except such as properly belong to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the Annual Session. He shall, with the cooperation of the secretaries of the component societies, keep a card-index register of all the legal practitioners of the state by counties, noting on each his status in relation to his county society, and shall transmit a copy of this list to the American Medical Association, transmitting to its secretary each month a report containing the names of new members and the names of those dropped from the membership roster during the preceding month. He shall conduct the official correspondence, notifying members of meetings, officers of their election and committees of their appointment and duties. He shall employ such assistants as may be ordered by the Council and shall make an annual report to the House of Delegates. He shall supply all component societies with the necessary blanks for making their reports, and shall collect from them the regular per capita assessments and turn the same over to the Treasurer. The amount of his salary shall be fixed by the Council.

CHAPTER VI.—COUNCIL

SECTION 1. The Council shall meet on the first day of the Annual Session, and daily during the Session and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. It shall meet on the third day of the Annual Session of the Association to organize. It shall, through its Chairman, make an annual report to the House of Delegates.

SEC. 2. Each Councilor shall be organizer, peace-maker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and to keep in touch with the activities of and to aid in the betterment of the component societies of his district. He shall make an annual report of his work, and of the condition of the profession of each county in his district at the Annual Session of the Council. The necessary traveling expenses incurred by each Councilor in the line of duties herein imposed may be allowed on a proper itemized statement, but this shall not be construed to include his expense in attending the Annual Session of the Association.

SEC. 3. The Council shall be the executive body of the House of Delegates and between sessions shall exercise the power conferred on the House of Delegates by the Constitution and By-Laws. Three members of the Council, elected by the Council, together with the President and the Secretary, shall be the Executive Committee of the Council and shall constitute a quorum for the transaction of business excepting that concerning the conduct of a member, when a majority of the membership of the Council shall be necessary to act; provided, the action of the Executive Committee of the Council shall be subject to the approval of the Council.

SEC. 4. The Council shall be the Board of Censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or component societies, on which an appeal is taken from the decision of an individual Councilor. Its decision in all cases, including questions regarding members in this Association, shall be final.

SEC. 5. Charters shall be issued to county societies only on approval of the Council, and shall be signed by the President and Secretary of this Association. Upon the recommendation of the Council, the House of Delegates may revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

SEC. 6. In sparsely settled sections the Council shall have authority to organize the physicians of two or more counties into societies, to be suitably designed so as to distinguish them from district societies, and these societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

SEC. 7. The Council shall provide for and superintend the issuance of all publications of the Association, including proceedings, transactions and memoirs, and shall have authority to appoint an editor and such assistants as it deems necessary. It shall prescribe the methods of accounting and through a committee of three of its members, to be known as a Committee on Auditing and Appropriations, shall audit all accounts of this Association. The Council shall adopt an annual budget providing for the necessary expenses of the Association, which shall be prepared and presented for its consideration by the Committee on Auditing and Appropriations at the first meeting of the Council in December of each year. It shall submit an annual report to the House of Delegates, which shall specify the character and cost of the publications of the Association, the amount and character of all of its property, and shall provide full information concerning the management of all affairs of the Association which the Council is charged to administer.

SEC. 8. The Council shall appoint, at least six months before the annual meeting, a committee, consisting of three of its members, to be known as the Committee on Arrangements for the Annual Session. On recommendation of this committee, the Council shall appoint a general chairman of a local committee on arrangements, who shall be a member of the component society of the county in which the Annual Meeting is to be held, and who shall appoint and organize from the members of this county society the personnel of the local committee on arrangements. The local committee on arrangements shall provide suitable meeting places and shall have

general charge of all local arrangements subject to the approval of the Committee on Arrangements for the Annual Meeting. All receipts accruing from the Annual Meeting shall be turned over to the Committee on Arrangements and all expenditures made by that committee in connection with the Annual Meeting must be authorized in advance by the Committee on Auditing and Appropriations. Immediately after the Annual Meeting the Committee on Arrangements shall forward to the Treasurer any accumulated balance. Any deficit created on account of the Annual Meeting shall be met by the Council on recommendation of the Committee on Auditing and Appropriations.

SEC. 9. The Council shall by appointment fill any vacancy in office not otherwise provided for which may occur during the interval between annual meetings of the House of Delegates; the appointee shall serve until his successor has been elected and has qualified.

SEC. 10. The salaries of all employees of the Association shall be fixed by the Council.

SEC. 11. The Council shall provide such headquarters for the Association as may be required to conduct its business properly.

CHAPTER VII.—COMMITTEES

SECTION 1. The standing committees of this Association shall be as follows:

- A Committee on Scientific Work.
- A Committee on Public Policy.
- A Committee on Publication.
- A Committee on Medical Defense.
- A Committee on Medical Education and Hospitals.
- A Committee on Medical Economics.

Unless otherwise provided in these By-Laws, each of these committees shall consist of three members, each of whom shall serve for a term of three years. One member of each of these committees shall be appointed annually by the President, by and with the consent of the House of Delegates, provided that at the Seventieth Annual Session one member of each of the foregoing committees shall be appointed for a term of three years, one each for two years, and one each for one year.

SEC. 2. The Committee on Scientific Work shall consist of three members, of which the Secretary shall be one, and shall determine the character and scope of the scientific proceedings of the Association for each session, subject to the instructions of the House of Delegates. Thirty days previous to each Annual Session it shall prepare and issue a program announcing the order in which papers and discussions shall be presented.

SEC. 3. The Committee on Public Policy shall consist of three members, and the President and the President Elect. There shall be a joint meeting of this committee and an auxiliary committee, as provided for in Chapter XI, Section 10 of these By-Laws, held annually, as may be ordered on the call of the chairman or three members of the State Committee. The chairman of the State Committee, and in his absence, the President, shall act as chairman at the joint committee meetings. Under the direction of the State Committee, the joint committee shall represent the Association in securing and enforcing legislation in the interest of public health and of scientific medicine.

• SEC. 4. The Committee on Publication shall have referred to it all reports on scientific subjects and all scientific papers and discussions heard before the Association. It shall be empowered to curtail, abstract or reject papers and discussions. The committee shall arrange for the publication and distribution of THE JOURNAL.

SEC. 5. The Committee on Defense shall upon

request and in compliance with the conditions herein-after named, and in the defense of suits for alleged malpractice instituted or threatened against any member of the Association.

CONDITIONS

(a) Any member whose annual dues have been received by the Secretary of the County Society on or before April 1 shall have the continuous protection provided for in this section. New members have a right to defense on receipt of their dues by the Secretary of the County Society.

(b) Any member whose annual dues have not been received on or before April 1 shall be delinquent from the first day of January of that year and shall remain so until his dues are paid. No member shall receive legal defense for any malpractice suit filed before the date of his enrollment as a member or during his delinquency; nor if the service for which malpractice is alleged were rendered wholly or in part before the date of his enrollment as a member or during his delinquency.

(c) Any member desiring to avail himself of the provisions of this section shall, within three days after any demand has been made upon him, present his request to the Secretary of this Association, together with a complete history of the case and the services therein rendered. The committee shall then, with the aid of its counsel, advise said member up to the time of the institution of suit. Should suit be filed, a copy of the plaintiff's petition must be immediately forwarded to the Secretary of this Association. The committee shall thereupon provide such medical expert and legal services of counsel as may be necessary, but in no case shall the cost to this Association be in excess of \$100 for all such services. The Association does not obligate itself to pay, nor shall it pay in whole or in part, any damages agreed upon in compromise, or awarded after trial, nor shall it pay any of the expenses incident to the taking of depositions nor any of the costs of court.

(d) No member shall be entitled to the above-described defense should the charge of malpractice be brought jointly against him and a hospital or sanatorium in which he is, or at the time of the alleged malpractice was, financially interested.

(e) Such aid as is specified in this section refers to civil malpractice only and is not to be construed to apply to criminal prosecutions.

SEC. 6. The Committee on Medical Education and Hospitals shall serve in this State for the Council on Medical Education and Hospitals of the American Medical Association, and shall have referred to it all questions pertaining to hospitals and medical education.

SEC. 7. The Committee on Medical Economics shall investigate matters affecting the economic status of physicians and shall report annually to the House of Delegates such recommendations as may, in its judgment, seem proper.

CHAPTER VIII.—DUES AND ASSESSMENTS

SEC. 1. The annual dues and assessments shall be determined by the House of Delegates, and shall be levied per capita on the members of the Association. They shall be payable on or before January 1 of the year for which they are levied. One dollar of the annual dues shall be credited to subscription to THE JOURNAL for one year. The Secretary of each component society shall cause to be collected and shall forward to the offices of the Association the dues and assessments for its members, together with such data as shall be required for a record of its officers and membership. Any member whose name has not been reported for enrollment and whose dues for the current year have not been remitted to the Secretary of this Association on or before April 1, shall stand

suspended until his name is properly reported and his dues for the current year are paid.

SEC. 2. The record of payment of dues and assessments on file in the offices of the Association shall be final as to the fact of payment by a member and as to his right to participate in the business and proceedings of the Association and of the House of Delegates.

SEC. 3. Any county society which fails to make the reports required, at least thirty days before the Annual Session of the State Association, shall be held suspended, and none of its members or delegates shall be permitted to participate in any of the proceedings of the Association or of the House of Delegates.

CHAPTER IX.—RULES OF CONDUCT

The ethical principles governing the members of the American Medical Association shall govern members of this Association.

SEC. 2. It is unprofessional for a physician to recognize or support in any manner any school of medicine, or any alleged method of treating disease or injury, based on exclusive dogma or sectarian system or professedly limited to the use of certain methods or designated by special titles or otherwise reputed in the profession as irregular. For a physician to consult with, exchange material benefits with, or to recommend or support a practitioner of any such system is unprofessional and constitutes gross misconduct.

CHAPTER X.—RULES OF ORDER

The deliberations of this Association shall be conducted in accordance with parliamentary usage as defined in Robert's Rules of Order.

CHAPTER XI.—COUNTY SOCIETIES

SECTION 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws shall, upon application to the Council, receive charters from this Association, provided that their Constitutions and By-Laws shall have been submitted to the Council and received its approval.

SEC. 2. Only one component medical society shall be chartered in each county.

SEC. 3. Each county society shall judge of the qualifications of its members, subject to review and final decision by the Council of the State Association. Every reputable and legally qualified physician who does not practice, nor profess to practice sectarian medicine, and who is a bona-fide resident of the same county, who shall apply for membership on the prescribed form and subscribe for THE JOURNAL and pay the annual dues for the current year, shall be eligible for election to membership.

A member of a component society whose license has been revoked shall be dropped from membership automatically as of the date of revocation. The Council of the State Association shall have final authority to expel a member should a component county society fail to do so after being so requested by the Council.

A component society may at its discretion place active members who have reached advanced years and have long served the Association and profession, on an "Honor List" and such members shall be known as "Honor Members." They shall enjoy all the privileges of active membership and shall be exempt from dues.

The Council may upon request of a component society remit the state assessment of a member who has become totally and permanently incapacitated through mental or physical disability and has been a

member in good standing during the three consecutive years immediately preceding his disability; provided, that the component society shall remit the county society dues of such member.

A physician living near a county line may hold his membership in that county most convenient for him to attend, on permission of the component society in whose jurisdiction he resides.

SEC. 4. Any physician who may feel aggrieved by the action of the society of his county in suspending or expelling him, shall have the right to appeal to the Council, whose decision shall be final. A county society shall at all times be permitted to appeal or refer questions involving membership to the Council of the State Association for final determination.

SEC. 5. In hearing appeals the Council may admit oral or written evidence as in its judgment will most fairly present the facts, but in the case of every appeal both as a board and as individuals, the Councilors shall, preceding all such hearings, make efforts at conciliation and compromise.

SEC. 6. When a member* in good standing in a component county society moves to another county in this State, he shall be given a written certificate of these facts by the Secretary of his society, without cost, for transmission to the Secretary of the society in the county to which he moves. Pending his acceptance or rejection by the society in the county to which he removes such member shall be considered to be in good standing in the county society from which he was certified and in the State Association to the end of the period for which his dues have been paid.

A member of a component society who removes to and engages in the practice of medicine at a location in another county in which there is a component society shall forfeit his membership in this Association and the Secretary shall remove his name from the roster of members of the Missouri State Medical Association unless within one year after such change of residence he becomes a member of the component society in the county to which he has moved.

SEC. 7. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county. Systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it includes every eligible physician in the county.

SEC. 8. At some meeting in advance of the Annual Session of this Association, each component county society shall elect one or more delegates and an equal number of individual alternates therefor to represent it in the House of Delegates of this Association, in accordance with Chapter III, Section 2, of these By-Laws. The secretary of each county society shall send a list of such delegates and alternates to the Secretary of this Association at least thirty days before the Annual Session. Representation in the House of Delegates shall be contingent on compliance with the foregoing provisions.

SEC. 9. The Secretary of each county society shall keep a roster of its members and, if practicable, a list of non-affiliated physicians, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary by Council. He shall send a copy of the program of each county meeting to his district Councilor and to the Secretary.

SEC. 10. Each county society shall appoint or elect one of its members as a member of the auxiliary Committee on Public Policy, and the county

society secretary shall send his name and address at once to the Secretary of this Association. The Committee on Public Policy of this Association shall formulate the duties of this auxiliary committee and supply each member with a copy. The auxiliary committeemen shall be accountable to their county societies and to the Council for prompt response to and continued cooperation with the Committee on Public Policy of this Association.

CHAPTER XII.—AMENDMENTS

SECTION 1. These By-Laws may be amended at any Annual Session by a majority vote of the delegates present at that session, if the proposed amendment has been properly submitted to the House of Delegates and has lain on the table for one day.

SEC. 2. Upon the adoption of this Constitution and these By-Laws, all previous Constitutions and By-Laws are thereby repealed.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1927

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Camden County Medical Society, December 31, 1926.

Holt County Medical Society, January 21, 1927.

Iron County Medical Society, March 4, 1927.

Madison County Medical Society, March 9, 1927.

Dent County Medical Society, April 2, 1927.

Ralls County Medical Society, April 4, 1927.

Platte County Medical Society, April 7, 1927.

BATES COUNTY MEDICAL SOCIETY

The Bates County Medical Society met at the Butler Courthouse March 10, at 1:30 p. m., with the following members present: Drs. Carter W. Luter, Adrian; H. W. Insley, Rich Hill; A. B. Freeman, Rockville; C. A. Lusk, E. N. Chastain and G. H. Thiele, Butler, and C. M. Rice who has recently located at Butler.

As this was the first meeting of the Society since November, 1926, election of officers for the year 1927 was held with results as follows: President, H. W. Insley, Rich Hill; secretary-treasurer, G. H. Thiele, Butler; delegate to the meeting of the State Medical Association, A. B. Freeman, Rockville. No alternate was elected, the matter being left to the discretion of the newly elected president.

The Society approved the proposed amendments to the Constitution and By-Laws of the Missouri State Medical Association and our delegate was instructed to vote the Society's approval.

The proposed amendments to the Medical Practice Act were also approved.

The report of the Committee on Medical Relief in Disaster of the American Medical Association, was approved.

The plan of the Postgraduate Extension Committee was unanimously accepted and the secretary instructed to inform the State Secretary and the Councilor of this district of our acceptance.

The Society was presented with a paper on "The Obscure Pyrexia of Children," by Dr. Carter W.

Luter. Dr. Luter's paper was excellent from all points of view and was discussed by the members present.

Upon motion, the Society adjourned to meet again Thursday, March 31.

GEORGE H. THIELE, M.D., Secretary.

CALDWELL COUNTY MEDICAL SOCIETY

The Caldwell County Medical Society met in Polo, March 24, at 2 p.m., with the following members present: G. S. Dowell, Braymer; Tinsley Brown, Hamilton; E. A. Thompson, Breckenridge; B. F. Carr and C. H. Wilbur, Polo. Dr. Caryl Potter, of St. Joseph, was present by invitation. The minutes of the October meeting were read and approved.

Dr. G. S. Dowell was elected president for the ensuing year and Dr. Tinsley Brown, secretary and treasurer. Dr. Dowell was also appointed delegate to the 1927 meeting of the Missouri State Medical Association and Dr. Brown as alternate.

Dr. Potter was accorded the privileges of the Society and made an address on "Gastro-intestinal and Gynecological Surgery," which was enjoyed by all and was indeed instructive. The Society gave Dr. Potter a vote of thanks for his presence and address.

Some clinical cases were presented and discussed.

The Society adjourned to meet in Hamilton in April if weather and roads permit.

TINSLEY BROWN, M.D., Secretary.

CHRISTIAN COUNTY MEDICAL SOCIETY

The Christian County Medical Society met at Ozark, March 30, and elected the following officers for the year 1927: President, J. C. Young, Ozark; vice president, J. H. Wade, Ozark; secretary-treasurer, F. H. Brown, Billings; delegate, R. R. Farthing, Ozark; alternate, H. J. Wise, Sparta.

Scientific papers and medical legislative work were the principal matters discussed.

F. H. BROWN, M.D., Secretary.

COOPER COUNTY MEDICAL SOCIETY

The annual business meeting of the Cooper County Medical Society was held January 5, and the following officers were re-elected for the year 1927: President, A. L. Meredith, Prairie Home; vice president, H. D. Quigg, Boonville; secretary, W. E. Stone, Boonville.

The following physicians were elected to honorary membership in the Society: A. W. Nelson and O. W. Cochran, Boonville, and H. T. Barnes, Pilot Grove.

W. E. STONE, M.D., Secretary.

DUNKLIN COUNTY MEDICAL SOCIETY

The Dunklin County Medical Society held its annual meeting at Malden, February 25.

After the regular program, election of officers for 1927 was held which resulted as follows: President, Dr. Paul Baldwin, Kennett; vice president, Dr. S. T. Smith, Holcomb; secretary-treasurer, Dr. T. J. Rigdon, Kennett.

JASPER COUNTY MEDICAL SOCIETY

Meeting of March 1, 1927

The Jasper County Medical Society met in regular session March 1 at the Joplin Y. M. C. A. at 8

o'clock, p. m. Members present: Drs. O. L. Alberty, C. M. Balsley, J. W. Barson, A. B. Clark, M. O. Coombs, C. C. Cummings, L. C. Chenoweth, J. M. Gray, S. A. Grantham, E. D. James, R. M. James, R. C. Lowdermilk, R. E. Myers, C. T. Reid, G. K. Sims, J. L. Sims, R. M. Stormont and R. A. Thornton.

Guest present: Dr. Ralph Duncan, Kansas City.

Report of committee: President L. C. Chenoweth, as chairman of the committee which was appointed following the meeting of February 22, presented an article in answer to the editorial "Doctors and Night Calls" which was discussed at the last meeting of the Jasper County Medical Society. This paper was read, discussed in minute detail and a motion carried that the article be presented to the Joplin *Globe* for publication in toto in the editorial column in the nearest possible Sunday issue. Further, in case it should not be accepted for the editorial page, it should be presented as a paid advertisement and in either case signed by the Jasper County Medical Society.

Dr. R. Claude Lowdermilk, of Galena, Kansas, delivered a definitely instructive lecture to the Society on the subject of "Asthma." He confined his remarks to the pure spasmodic asthma of the acute type in which the individual has exacerbations and remissions of symptoms.

The essayist did not hesitate to make statements which are directly at variance with those which have occurred in textbooks and are yet found therein, and, in doing so, he bolstered up his statements with facts demonstrated in his research laboratories and in his daily work. Dr. Lowdermilk made a graphic diagram in which he explained how the protein molecule divides itself into an outer (haptophore) non-toxic part, and an inner (toxophore) toxic part, illustrating how these parts of the split protein molecule contribute to the toxicosis which brings about the asthmatic symptoms. He discussed in detail the diagnostic features of asthma, following it up with his methods of treatment in which he included the palliative and curative.

The reading of the paper was followed by a discussion which brought out certain definite points that were clarified most admirably.

Meeting of March 8, 1927

The Jasper County Medical Society met in regular session, March 8, at the Joplin Y. M. C. A. at eight p. m. with the following members present: Drs. L. C. Chenoweth, C. C. Cummings, E. D. Hatcher, S. H. Miller, G. K. Sims, R. M. Stormont, and R. A. Thornton.

Guest present: Dr. J. L. Craig, Webb City, Missouri.

No paper was prepared for this particular meeting; instead an open meeting was held for the discussion of case reports. Each attending member entered freely into the discussion of the cases brought before the Society, which discussion was conducted in ordinary round table manner. The members seemed to concur heartily in the idea that this type of meeting was one which contributed largely to a live discussion and that greater benefit may be derived thereby than in the usual presentation of a paper.

Dr. Miller brought to the attention of the Society the return of Dr. Leon Hurwitz and asked, for his own personal information, whether or not the license to practice medicine had been denied Dr. Hurwitz. The president of the Society informed Dr. Miller that the State Board of Health revoked the license for a period of fifteen years.

Meeting of March 15, 1927

The Society met in regular session, March 15, at the Joplin Y. M. C. A. at eight p. m. Members present: Drs. L. C. Chenoweth, A. B. Clark, W. R. Gaddie, E. R. Hornback, E. D. Hatcher, R. C. Lowdermilk, S. H. Miller, J. F. Morgan, R. L. Neff, and G. K. Sims.

Dr. Hatcher read a paper on "Insanity and Some Mental Diseases in Missouri," reviewing briefly the statistical history of the past seventy-six years, at the beginning of which time this state entered upon its first attempt to care for its mentally deficient. He referred to the several institutions of the state, both public and private, caring for these indigent and presented data in proof of our lack in being able to cope with the situation as should be done. The essayist reviewed the literature and referred to numerous individuals of several nationalities, people of historic importance, in which he pointed out that these particular individuals were either mentally deficient or possessed some abnormality of mind. He differentiated between the legally and scientifically insane and mentioned in a brief manner Freud's contribution to the literary dealings with the insanities.

Showing some statistics that our mental defects are on the increase, Dr. Hatcher asked the question, "What is to be done to check the increase or, more, to lessen it?" He indicated that in his own opinion this could be accomplished through biology and eugenics and based his hypothesis on the assumption that it could be brought about in a manner similar to that in which the farmer brings his live stock to a higher standard through breeding.

The paper was one of merit and was indicative of no small amount of research. It elicited discussion from each individual member in attendance.

Meeting of March 22, 1927

The Society met in regular session, March 22, at the Joplin Y. M. C. A. at eight p. m. with the following members present. Drs. O. L. Alberty, J. W. Barson, E. J. Burch, L. C. Chenoweth, A. B. Clark, L. B. Clinton, M. O. Coombs, S. A. Grantham, E. D. Hatcher, J. F. Morgan, R. E. Myers, C. T. Reid, M. C. Shelton, G. K. Sims, J. L. Sims.

Dr. E. J. Burch, Carthage, reviewed a case of pelvic inflammatory disease of several months standing, giving in minute details the history of the case together with the physical findings. The patient had had a premature labor, following which the menses were markedly irregular over a considerable period of time. There was spotting, dysmenorrhea, menorrhagia and metrorrhagia until the patient had become anemic, nervous and so weak that she could scarcely stand. She exhibited an aspect of utter helplessness and hopelessness in her own mind. Pain was marked in both pelvic quadrants and tenderness in this particular region was elicited by even the slightest pressure. She had lost one fourth the amount of her normal weight and was running a temperature of 101° plus daily. Vaginal examination revealed an endocervicitis with a lacerated cervix emitting a mucopurulent discharge. The cervix was decidedly painful to any manipulation and the culdesac was filled by a palpable, dense, tender mass. Because of that along with the tenderness in the region above the pubic rami, one was unable to palpate the fundus uteri or the adnexa. With the use of diathermia and topical applications, covering a period of about eight weeks, the local condition was wholly cleared up, the menses restored to regularity and the mental attitude of the patient changed to that of a normal, healthy individual.

The Doctor referred to another case, a Bartholinian abscess, which he reports having cleared up

solely by the use of a vacuum electrode and violet ray in four treatments. He reported successful results with five such cases employing this particular therapy.

Following the report of cases, the evening was devoted to the reading of a paper on "Chronic Arthritis" by President L. C. Chenoweth. He gave as a definition, "a deforming disease of the joints, distinct from gout or rheumatism, characterized by destructive changes in the synovial membranes, cartilage and bone, and by bony outgrowths restricting the motion of the joint." He reviewed the disease beginning with Sydenham in the first part of the seventeenth century, referring specifically to those men who have been particularly active in this field of medical research even to date. Dr. Chenoweth brought out in his paper, and it is generally held true, that Dr. L. F. Barker's statement in his recent contribution to literature "that despite the real progress that has been made it must be confessed that the arthropathies are still veiled in deplorable obscurity and as yet to look at the progress from an etiological point of view is to some extent dependent upon an intervening dust cloud of terminology," still holds true today.

The arthropathies were divided into two classes, namely, proliferative and degenerative, each possessing its own macroscopic and microscopic differences as well as its subjective and objective symptoms. The proliferative arthropathies are far more severe than the degenerative. The proliferative type was made to include the frankly inflammatory conditions and was divided into, (1) the chronic infectious conditions referable to foci of infections; (2) specific arthritis caused by specific bacteria; and (3) true arthritis deformans, a progressive condition of unknown origin.

The degenerative type was subdivided as follows: (1) Arthritis of the menopause; (2) degenerative monarthrititis; and (3) senile arthritis.

It was shown in statistical reports of a series of 612 cases that the tonsils were the etiological factor in 61 per cent. of the group, the teeth in 33 per cent., and the sinuses, prostate, gallbladder, appendix, colon and cervix uteri in the remaining 6 per cent.

It was emphasized by the essayist of the evening that early recognition and treatment was the sine qua non since the best results were thereby obtained. The methods of treatment referred to were as follows: (1) Discovery and removal of infective foci; (2) use of vaccines and physiotherapy as adjuncts; (3) the use of some drugs of recent production as cinchophen and amidoxyl; and (4) the time honored salicylates.

The paper was discussed at length and created such interest on the part of those present that it was decided to follow this paper at the next meeting of the Society by graphic illustrations in the form of roentgenograms, which would be presented from the laboratory of Dr. S. A. Grantham from his own individual cases.

GEORGE KIRBY SIMS, M.D., Secretary.

LAFAYETTE COUNTY MEDICAL SOCIETY

The Lafayette County Medical Society met in the Farmers Bank Building, Higginsville, Tuesday afternoon, March 8, with the president, Dr. W. E. Koppenbrink, in the chair. The minutes of the last meeting were read and approved. Those present were: Drs. Lewis Carthrae, Jr., E. A. Hoefer, C. T. Ryland, W. C. Webb, E. L. Johnson, Odus Liston, F. M. Shryman, W. A. Braecklein, W. E. Koppenbrink, J. W. Horner and H. M. Lissack.

Dr. J. W. Horner, Alma, read a very interesting and well prepared paper on "Treatment of Pneu-

monia." His paper brought forth a very lively discussion, each member present giving his view of the proper treatment of pneumonia.

A motion was made and seconded that Dr. Horner repeat his paper at the Tri-County meeting to be held in Higginsville in April. Dr. Horner appreciated the honor.

A motion was made and seconded that the Higginsville physicians arrange the program for the Tri-County meeting in April.

Dr. E. A. Hoefer was duly elected to membership in the Lafayette County Medical Society.

EDMUND LISSACK, M.D., Secretary.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY

The regular meeting of the Lawrence-Stone County Medical Society was held at the city hall, Aurora, March 1, and was called to order by the president, Dr. P. A. Holmes. The following members were present: Drs. D. C. Adams, R. D. Cowan and T. D. Miller, Aurora; W. J. Bryan, W. I. Fulton, P. A. Holmes and C. W. Shelton, Mt. Vernon.

The resignation of Dr. T. T. O'Dell, secretary, was accepted and Dr. R. D. Cowan elected as his successor.

Dr. W. J. Bryan read a paper on "Incipient Tuberculosis."

Dr. R. D. Cowan presented a paper on "Granuloma Inguinale."

Dr. T. D. Miller reported a case of bronchial pneumonia complicated with acute appendicitis.

The next meeting of the Society will be held at the State Sanatorium, Mt. Vernon, June 7.

R. D. COWAN, M.D., Secretary.

RANDOLPH-MONROE COUNTY MEDICAL SOCIETY

At the meeting of the Randolph County Medical Society held at Moberly, March 8, it was voted to form the Randolph-Monroe County Medical Society. The secretary, Dr. C. H. Dixon, was instructed to send the dues of members living in Monroe County to the State Association.

The plan of combining Randolph, Monroe and Macon Societies was not consummated but Monroe County Society voted to join with Randolph County Society and the combination was completed at this meeting.

This was a public health meeting and was freely expressed as being one of the best meetings ever held.

Dr. M. E. Leusley, Moberly, read a paper on "Some Phases of Preventive Medicine."

Drs. G. O. Cuppaidge and C. H. Dixon, Moberly, opened the discussion on this subject which was participated in by every member.

The usual social hour with lunch followed.

C. H. DIXON, M.D., Secretary.

WOMEN'S AUXILIARY

OFFICERS 1925-1926

President, Mrs. A. B. McGlothlan, St. Joseph.

President-Elect, Mrs. W. M. Bickford, Marshall.

Chairman of Organization, Mrs. Willard Bartlett, St. Louis.

1st Vice President, Mrs. A. W. McAlester, Kansas City.

2nd Vice President, Mrs. Archer O'Reilly, St. Louis.

3rd Vice President, Mrs. M. P. Neal, Columbia.

4th Vice President, Mrs. Wm. Spaulding, Poplar Bluff.

Corresponding Secretary, Mrs. H. S. Conrad, St. Joseph.

Recording Secretary, Mrs. M. A. Hanna, Kansas City.

Treasurer, Mrs. C. T. Ryland, Lexington.

Directors: Mrs. Guy L. Noyes, Columbia; Mrs. Leland Boogher, St. Louis; Mrs. Geo. H. Hoxie, Kansas City; Mrs. Frank Hinchey, St. Louis; Mrs. Walter Baumgarten, St. Louis; Mrs. M. P. Overholser, Harrisonville; Mrs. H. F. Parker, Warrensburg; Mrs. R. W. Berrey, Mexico; Mrs. J. G. Montgomery, Kansas City; Mrs. W. F. O'Malley, Webster Groves.

A CALL TO THE ANNUAL MEETING

The Third Annual Meeting of the Women's Auxiliary will be held in Sedalia, May 3 and 4, in the Methodist Episcopal Church, North.

The Executive Board will meet at eleven o'clock a. m., Tuesday, May 3. At 12:30 p. m. a luncheon will be given in the private dining room of the Church which the Auxiliary members and local and visiting doctors' wives may attend. The following program will be given after the luncheon.

Program

Invocation .. Mrs. M. P. Overholser, Harrisonville
Address of Welcome.....

.....Mrs. Edwin F. Yancey, Sedalia
Response Mrs. Willard Bartlett, St. Louis

The Missouri Association for the Care of Crippled

Children .. Frank D. Dickson, M.D., Kansas City

Cooperation with Other Women's Organizations

..... Mrs. Geo. H. Hoxie, Kansas City

Following the luncheon a musical tea will be given at the Elk's Club by the Sedalia doctors' wives to the visitors and the tea will be followed by a drive.

On Wednesday, May 4, at 9:30 a. m., the annual business meeting will begin, continuing till noon. At 12:30 p. m. a luncheon will be given in the large dining room of the Church. This will begin the open meeting of the Auxiliary and anyone wishing to hear the program may attend this luncheon. Dr. C. A. Good, St. Joseph, will discuss "The Seymour Plan for Disease Prevention." Following Dr. Good's address, reports of the county presidents or representatives of the auxiliaries will be given.

The afternoon program, to be held in the Church auditorium, will also be open to the public and will begin at 2:30 p. m. Miss Buda Carroll Keller, Director of Lay Education of the Illinois State Medical Association, will be the first speaker. Her subject will be announced later.

"The Six-Point Child," a health examination demonstration, will be conducted by Dr. Irl Brown Krause and Miss McIver, of the State Board of Health, after Dr. Krause has discussed Missouri's plans for "May Day Child Health Day."

At 4:30 p. m. the new Executive Board will meet, Mrs. W. M. Bickford, Marshall, presiding.

Wednesday evening the women of the Auxiliary will attend the open meeting of the State Medical Association.

MRS. A. B. MCGLOTHLAN, President.

MISSOURI STATE MEDICAL ASSOCIATION
70th ANNUAL MEETING

The 70th Annual Meeting of the Association convenes at Sedalia, Tuesday, Wednesday and Thursday, May 3, 4, and 5. The House of Delegates will convene Monday, May 2, and hold its first session when a large part of the business of the Association will be transacted without interfering with the scientific proceedings on the following days. The House of Delegates will hold its meetings in the Assembly Room of the Court House on the ground floor. All scientific sessions will be held in the Circuit Court Room on the third floor of the Court House. The registration desk and the exhibits will be located in the lobby on the ground floor of the Court House. The program follows:

THE COUNCIL

First Meeting—Monday, May 2, 1927—1:00 P. M., Assembly Room,
1st Floor, Court House

1st District.....	Austin McMichael, Rockport
2nd District.....	H. S. Conrad, St. Joseph
3rd District.....	F. H. Broyles, Bethany
4th District.....	Geo. M. Bristow, Princeton
5th District.....	J. R. Bridges, Kahoka
6th District.....	J. S. Gashwiler, Novinger
7th District.....	T. J. Downing, New London
8th District.....	B. P. Wentker, St. Charles
9th District.....	A. R. McComas, Sturgeon
10th District.....	D. A. Barnhart, Huntsville
11th District.....	J. H. Timberman, Chillicothe
12th District.....	Spence Redman, Platte City
13th District.....	Geo. E. Bellows, Kansas City
14th District.....	C. T. Ryland, Lexington
15th District.....	L. J. Schofield, Warrensburg
16th District.....	T. B. M. Craig, Nevada
17th District.....	Guy Titsworth, Sedalia
18th District.....	W. L. Allee, Eldon
19th District.....	W. A. Clark, Jefferson City
20th District.....	W. C. Gayler, St. Louis
21st District.....	Thos. F. Estel, Altenburg
22nd District.....	G. S. Cannon, Fornfelt
23rd District.....	Chas. W. Brown, Campbell
24th District.....	T. W. Cotton, Van Buren
25th District.....	R. W. Gay, Ironton
26th District.....	J. A. McComb, Lebanon
27th District.....	J. C. B. Davis, Willow Springs
28th District.....	T. O. Klingner, Springfield
29th District.....	R. L. Wills, Neosho

Second Meeting of the Council—Wednesday, May 4, 1927, after House
of Delegates Adjourns. Assembly Room, 1st Floor,
Court House

DELEGATES

County	Delegates	Address
Adair	J. S. Gashwiler	Novinger
Atchison		
Audrain	R. S. Williams.....	Mexico
Barry		
Barton		
Bates	G. H. Thiele	Butler
Benton	James A. Logan.....	Warsaw
Boone	R. R. Robinson	Hallsville
Buchanan	C. A. Good.....	St. Joseph
Butler	A. R. Rowe	Poplar Bluff
Caldwell	G. S. Dowell	Braymer
Callaway	R. N. Crews.....	Fulton
Camden	G. T. Myers.....	Macks Creek
Cape Girardeau	E. H. G. Wilson.....	Cape Girardeau
Carroll		
Carter-Shannon		
Cass	W. L. Viers	Pleasant Hill
Chariton		

<i>County</i>	<i>Delegates</i>	<i>Address</i>
Christian	R. R. Farthing	Ozark
Clark		
Clay	J. R. Woods	Smithville
Clinton		
Cole	E. E. Mansur	Jefferson City
Cooper	T. C. Beckett	Boonville
Crawford		
Dallas		
Daviess		
Dekalb		
Dent		
Dunklin	E. L. Spence	Kennett
Franklin	H. A. May	Washington
Gasconade-Maries-Osage		
Gentry		
Greene	Jos. W. Love	Springfield
Grundy	J. F. Fair	Trenton
Harrison		
Henry	R. D. Haire	Clinton
Holt	O. C. Gebhart	Forest City
Howard	V. Q. Bonham	Fayette
Howell-Oregon	P. D. Gum	West Plains
Iron		
	1927	
	William A. Shelton	
	Frederick C. Rumsey	
	Morris H. Clark	
	Edward L. Stewart	
	Tom Twyman	
Jackson	1927-28	Kansas City
	James E. Stowers	
	Hermion S. Major	
	John L. Robinson	
	Elmer P. Monahan	
	O. Jason Dixon	
Jasper	L. C. Chenoweth	Joplin
Jefferson	N. W. Jarvis	Festus
Johnson	J. I. Anderson	Warrensburg
Knox		
Laclede	J. W. Lindsay	Conway
Lafayette	J. W. Horner	Alma
Lawrence-Stone	J. W. Smith	Verona
Lewis		
Linn	Ola Putman	Marceline
Livingston		
Macon		
Madison		
Marion	J. J. Bourn	Hannibal
Mercer		
Miller	G. D. Walker	Eldon
Mississippi		
Moniteau	J. B. Norman	Tipton
Monroe		
Montgomery	David Nowlin	Montgomery
New Madrid	C. S. Blackman	Parma
Newton	H. L. Wilbur	Granby
Nodaway	H. S. Dowell	Maryville
Pemiscot		
Perry	T. F. Estel	Altenberg
Pettis	A. J. Campbell	Sedalia
Phelps	S. L. Baysinger	Rolla
Pike		
Platte	S. L. Durham	Dearborn
Pulaski		
Polk		
Putnam		
Ralls	H. B. Norton	Center
Randolph	R. D. Streeter	Columbia
Ray	Robt. L. Hamilton	Richmond
Reynolds		
St. Charles	Erich Schulz	St. Charles
St. Francois		
Ste. Genevieve	J. A. Wilkins	St. Marys

County	Delegates	Address
	1927	
	Amand Ravold	
	Harry M. Moore	
	Francis Reder	
	Stanley S. Burns	
	Victor B. Kieffer	
	Richard J. Payne	
	H. McClure Young	
	Samuel T. Bassett	
St. Louis City	Wm. D. Black	St. Louis
	Cleveland H. Shutt	
	1927-28	
	Chas. A. Vosburgh	
	Cyrus E. Burford	
	Wm. T. Coughlin	
	Wm. W. Graves	
	Robt. E. Schlueter	
	Joseph Grindon	
	Wm. E. Leighton	
	M. B. Clopton	
St. Louis County	R. B. Denny	Creve Coeur
Saline	F. A. Howard	Slater
Schuyler	H. E. Gerwig	Downing
Scotland		
Scott	U. P. Haw	Benton
Shelby		
Stoddard		
Sullivan		
Taney	Guy B. Mitchell	Branson
Texas	Leslie Randall	Licking
Vernon-Cedar	H. W. Lancaster	Nevada
Wayne		
Webster	E. M. Bailey	Elkland
Wright-Douglas	E. C. Wittwer	Mountain Grove

PROGRAM

HOUSE OF DELEGATES

**First Meeting—Monday, May 2, 1927—9:30 A. M., Assembly Room,
1st Floor, Court House**

Roll Call.
Reading of Minutes of Previous Meeting.
Reading of President's Message and Recommendations.
Report of Committee on Arrangements.
Report of Secretary.
Report of Treasurer.
Report of Committee on Scientific Work.
Report of Committee on Health and Public Instruction.
Report of Defense Committee.
Report of Committee on Medical Education.
Report of Committee on Hospitals.
Report of Committee on Constitution and By-Laws.
Appointment of Committee on Nominations.

Recess till 3:00 P. M.

Report of the Council.
Report of Reference Committees.
Reading of Resolutions, Memorials, etc.
Selection of Place of Next Meeting.
Miscellaneous Business.

**Second Meeting, Wednesday, May 4, 1927—9:30 A. M., Assembly Room,
1st Floor, Court House**

Reading of Minutes.
Election of President.
Report of Nominating Committee.
Election of Officers.
Unfinished Business.

GENERAL MEETING

Tuesday, May 3, 1927—9:00 A. M. Circuit Court Room

Symposium on Railway and Emergency Surgery:

- The Treatment of Fractures.....C. E. Hyndman, M.D., St. Louis
 Discussion opened by Dr. A. M. Gregg, Joplin
- The Traumatic Spine.....M. L. Klinefelter, M.D., St. Louis
 Discussion opened by Dr. C. B. Francisco, Kansas City
- Fractures of the Skull.....Ernest Sachs, M.D., St. Louis
 Discussion opened by Dr. Frank Teachenor, Kansas City
- Fracture of Upper and Lower Jaw....W. T. Coughlin, M.D., St. Louis
 Discussion opened by Dr. E. G. Blair, Kansas City
- Injuries to the Chest.....Thos. G. Orr, M.D., Kansas City
 Discussion opened by Dr. W. T. Elam, St. Joseph
- Injuries to the Abdomen.....O. B. Zeinert, M.D., St. Louis
 Discussion opened by Dr. W. A. Clark, Jefferson City
- Hernia in its Relation to Industrial Surgery..H. S. McKay, M.D., St. Louis
 Discussion opened by Dr. H. S. Forgrave, St. Joseph
 (Continued at afternoon session)

GENERAL MEETING

Tuesday, May 3, 1927—1:30 P. M. Circuit Court Room

Symposium on Railway and Emergency Surgery (continued):

- Injuries to the Eye.....J. Ellis Jennings, M.D., St. Louis
 Discussion opened by Dr. Guy L. Noyes, Columbia
- Injuries to the Genito-Urinary Tract...Robert Vinyard, M.D., St. Louis
 Discussion opened by Dr. W. J. Wills, Springfield
- Traumatic Emergency Surgery.....J. E. Castles, M.D., Kansas City
 Discussion opened by Dr. Lloyd B. Clinton, Carthage
 (End of symposium)

Symposium on Blood Transfusion:

- Medical Aspects.....Leo. J. Reilly, M.D., St. Louis
- Surgical Aspects.....C. A. Vosburgh, M.D., St. Louis
- Laboratory Aspects.....R. B. H. Gradwohl, M.D., St. Louis
 Discussion opened by Dr. D. D. Stofer, Kansas City
- Some Observations on the Treatment of Pernicious Anemia.....
A. P. Munsch, M.D. and C. H. Neilson, M.D., St. Louis
- Some Observations on Pernicious Anemia..Frank I. Ridge, M.D., Kansas City
- The Workmen's Compensation Act in Relation to Physicians.....
 J. Henry Caruthers, LL.B., St. Louis, Former Assistant Attorney-General
 Discussion opened by Dr. R. F. Hyland, St. Louis

GENERAL MEETING

Wednesday, May 4, 1927—9:00 A. M. Circuit Court Room

- Splenectomy, with Special Reference to Children.....
M. B. Clopton, M.D., St. Louis
- Cancer of the Breast.....Jabez N. Jackson, M.D., Kansas City
- Preoperative Care of Goiter Patients..Lawrence P. Engle, M.D., Kansas City
- Surgical and Allied Conditions of the Thyroid Gland.....
C. J. Hunt, M.D., Kansas City
 Discussion opened by Dr. H. J. McKenna, Kansas City
- Treatment of Crippling Conditions in Children with Special Reference to
 Prevention of Deformities.....LeRoy C. Abbott, M.D., St. Louis
- The Care of the Crippled Child.....Archer O'Reilly, M.D., St. Louis
 Discussion opened by Dr. Rex Diveley, Kansas City
- Movable Cecum in Relation to Right Side Pain.....
Albert N. Coughlin, M.D., St. Louis
 Discussion opened by Dr. Ralph Holbrook, Kansas City

GENERAL MEETING

Wednesday, May 4, 1927—1:30 P. M. Circuit Court Room

- The General Practitioner and Specialist....A. J. Chalkley, M.D., Lexington
- The Leucocyte Count in Acute Surgical Conditions.....
M. P. Neal, M.D. and Dudley A. Robnett, M.D., Columbia
 Discussion opened by Dr. Frank G. Nifong, Columbia

- Suppurative Pericarditis; Illustrated with Motion Pictures.....
Albert S. Welch, M.D., Kansas City
 Discussion opened by Dr. Elsworth Smith, St. Louis
 Endocarditis.....Carl A. Powell, M.D., St. Louis
 Discussion opened by Dr. Franklin E. Murphy, Kansas City
 The Diagnosis and Management of Acute Laryngeal Obstruction.....
O. J. Dixon, M.D., Kansas City
 Discussion opened by Dr. Frank C. Neff, Kansas City
 Bronchoscopic Experiences in Food and Air Passages; Illustrated with
 Lantern SlidesE. Lee Myers, M.D., St. Louis
 Pelvis Infection in Women.....H. E. Pearse, M.D., Kansas City
 Automatic Bladder and Some Other Reflexes Associated With Gross
 Lesions of the Spinal Cord.....G. Wilse Robinson, M.D., Kansas City

GENERAL MEETING

Wednesday Night, May 4, 1927—7:30 P. M. Circuit Court Room

- President's AddressW. H. Breuer, M.D., St. James
 What, Why and How We Must Tell the World.....
C. M. Rosser, M.D., Dallas, Tex.
 Address.....Jabez N. Jackson, M.D., Kansas City
President-Elect, American Medical Association
 Address.....F. C. Waite, Ph.D., Cleveland, Ohio

GENERAL MEETING

Thursday, May 5, 1927—9:00 A. M. Circuit Court Room

- Significance of the Ureteral Kink and Experimental Clinical Study.....
Clinton K. Smith, M.D., Kansas City
 Benign Prostatic Hypertrophy: Some Points in its Surgical Management
George H. Ewell, M.D., Kansas City
 Diseases of the Fundus of the Eye from the Standpoint of the
 Otolaryngologist.....W. D. Black, M.D., St. Louis
 Discussion opened by Dr. Jesse D. Cook, Kansas City
 Myoma of the Spermatic Cord; with lantern slide demonstration....
Wm. E. Leighton, M.D., St. Louis
 Treatment of Intracranial Hemorrhage of the New-Born.....
John D. Van Cleve, M.D., Malden
 The Five Most Common Errors in Obstetrical Practice.....
George Kirby Sims, M.D., Joplin
 Chronic Cervicitis.....Lee Dorsett, M.D., St. Louis

GENERAL MEETING

Thursday, May 5, 1927—1:30 P. M. Circuit Court Room

- Compulsory Notification of Puerperal Sepsis or Puerperal Pyrexia....
G. C. Mosher, M.D., Kansas City
 An Unusually Large Calculus in a Vesical Diverticulum.....
F. M. McCallum, M.D., Kansas City
 Operation Vesicovaginal Fistula: Original Technique.....
Clarence S. Capell, M.D., Kansas City
 Rectal Fissure.....W. R. Rainey, M.D., St. Louis

NINETEENTH ANNUAL MEETING OF MISSOURI SOCIETY OF MEDICAL SECRETARIES

Tuesday, May 3, 1927—6:00 P. M.—Liberty Hotel

The Secretaries will meet in the Liberty Hotel at 6:00 P. M. Dinner
 will be served.

Dr. J. T. Hornback, Secretary. Dr. Austin McMichael, President.

PROGRAM

- Address of Welcome.....Dr. Austin McMichael
 Address.....Dr. Wm. H. Breuer, President, State Medical Association
 Address.....Dr. M. P. Rosser, Dallas, Texas
 Address.....Dr. F. C. Waite, Cleveland, Ohio
 Round Table Talk: Influence of the County Medical Society in the
 Community.
 Election of officers.

**PROGRAM—THIRD ANNUAL MEETING
WOMEN'S AUXILIARY, MISSOURI STATE MEDICAL
ASSOCIATION**

First Methodist Episcopal Church, Fourth and Osage Streets, Sedalia

Headquarters, Hotel Terry, May 3, 4, 1927

Officers 1926-27

President, Mrs. A. B. McGlothlan, St. Joseph.
President-Elect, Mrs. W. M. Bickford, Marshall.
Chairman of Organization, Mrs. Willard Bartlett, St. Louis.
1st Vice President, Mrs. A. W. McAlester, Kansas City.
2nd Vice President, Mrs. Archer O'Reilly, St. Louis.
3rd Vice President, Mrs. M. P. Neal, Columbia.
4th Vice President, Mrs. Wm. Spaulding, Poplar Bluff.
Corresponding Secretary, Mrs. H. S. Conrad, St. Joseph.
Recording Secretary, Mrs. M. A. Hanna, Kansas City.
Treasurer, Mrs. C. T. Ryland, Lexington.

Committees

Education: Mrs. W. M. Bickford, Marshall.
Hygeia: Mrs. David S. Long, Harrisonville.
Legislation: Mrs. M. P. Overholser, Harrisonville.
Finance: Mrs. C. T. Ryland, Lexington.
Editor: Mrs. J. G. Montgomery, Kansas City.

Sedalia Committees

Arrangements: Mrs. James W. Boger, Mrs. Frank R. Morley, Mrs. K.
R. Barnum, Mrs. C. Bohling.
Entertainment: Mrs. Edwin F. Yancey.
Publicity: Mrs. W. T. Bishop, Mrs. A. L. Walters.

PROGRAM

Executive Board Meeting—Tuesday, May 3, 1927—11:00 A. M.
First Methodist Episcopal Church

LUNCHEON

Tuesday, May 3, 1927—12:30 P. M.—Dining Room First Methodist
Episcopal Church

Invocation.....Mrs. M. P. Overholser, Harrisonville
Address of Welcome.....Mrs. Edwin F. Yancey, Sedalia
Response.....Mrs. Willard Bartlett, St. Louis
Missouri Society for Crippled Children.....
.....Frank D. Dickson, M.D., Kansas City
Cooperation with Other Organizations..Mrs. Geo. H. Hoxie, Kansas City

MUSICAL TEA

Tuesday, May 3, 1927—3:00 P. M., Elks' Club

Followed by a drive given by wives of Sedalia physicians in honor of the
State Executive Board, State Delegates and Visiting Ladies.

Wednesday, May 4, 1927—9:30 A. M.—First Methodist Episcopal Church

Reports of Officers.
Reports of Chairmen of Standing Committees.
Report of Credentials Committees.
Report of Nominating Committee.
Election of Officers.
Report of Committee on Resolutions.

OPEN LUNCHEON MEETING

Wednesday, May 4, 1927—12:30 P. M.—Dining Room First Methodist
Episcopal Church

Activities of County Auxiliaries.....Reported by County Presidents
Address, The Seymour Plan for Disease Prevention.....
.....C. A. Good, M.D., St. Joseph

OPEN MEETING

Wednesday, May 4, 1927—2:30 P. M.—Auditorium First Methodist Episcopal Church

Address.....Miss Buda Carroll Keller,
 Director of Lay Education for the Illinois State Medical Society
 State Plans for May Day Child Health Day....Irl Brown Kruse, M.D.,
 Director, Division of Child Hygiene, State Board of Health,
 Jefferson City
 "The Six Point Child," a Health Examination Demonstration.....
Irl Brown Krause, M.D., and Miss Pearl McIver

EXECUTIVE BOARD MEETING

Wednesday, May 4, 1927—4:30 P. M.

Mrs. W. M. Bickford presiding

Open Meeting, Missouri State Medical Association, Wednesday,
 May 4, 1927—8:00 P. M.—Circuit Court Room Court House

BOOK REVIEWS

HEADACHE. ITS CAUSES AND TREATMENT. My Dr. Thomas F. Reilly, attending physician, Bellevue and Allied Hospitals, Fordham Division, and at St. Vincent's Hospital. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia. Price \$3.00.

This little handbook on the subject of headaches is well worked out, and many types of headache are included. One of the greatest points of value in this book is the fact that it raises many possibilities to the reader and in that way makes him think of possible causes of headaches in his patients which might not occur to him. Many helpful suggestions regarding diagnosis and treatment are found.

R. H. M.

DOC: FACTS, FABLES AND FOIBLES. By John Dillon, M.D., Larned, Kansas. 168 pages. Published by Richard P. Badger, The Gorham Press, Boston.

To those of us who know and love John Dillon, this charming collection of short stories will not come as a surprise, for we knew that he could do it. But to others, and particularly to those men in general practice who have spent years in the harness, the volume will prove priceless.

Dr. Dillon is a real philosopher, and his keen sense of humor and his dry wit shine and scintillate like stars in this new literary firmament. Each and every one of the twenty nine chapters is good, but a few, as "The Doctor Who Needed a Vacation," and "Letters From an Old Doc to a Young Doctor," are genuine masterpieces. Only a man who has been through the mill and who is a literary genius to boot, could turn out such material.

The book is one which should find a home in every private medical library, and a place in the heart of every medical man.

R. L. S.

GASTRIC FUNCTION IN HEALTH AND DISEASE. By John A. Ryle, M.D. (Lond.), F.R.C.P., Assistant Physician and Lecturer on Medical Pathology, Guy's Hospital. Oxford University Press, American Branch, 35 West 32nd St., New York City. Price \$2.75.

To your reviewer, the striking thing about this book is the author's position on the matter of the cause of gastric hyperacidity or hyperchlorhydria. He is ready to discard the idea of Cannon as to the acid key or opening of the pylorus, and is rather inclined to believe that the over acid stomach is due to the lack of the neutralizing effects from the

regurgitation of the duodenal contents rather than from an over secretion of the glands themselves. He tries to distinguish between the two types of hyperacidity by estimating the chlorides. (He fails however to give the technique by which he estimates the chlorides.)

Some of these failures of the duodenal contents to regurgitate are due to the hypertonicity of the pars pylorica of the stomach rather than to a stenosis or spasm of the pylorus itself. Sometimes this tonus is due to the shape and position of the stomach. He thinks that the relief obtained by alkalies is frequently due to the change of posture brought about by the change in gas pressure produced by the alkali.

The book reviews the literature well and was made originally for the Goulstonian Lectures in London. As lectures, they are very interesting reading and worth while. As a book for the American practitioner we could wish that the author went into greater detail on the matter of laboratory and other technique in order to make clear to us the viewpoint and the procedure favored by the author, for American physicians follow other technique and have other standards than those in England and, consequently, much that Dr. Ryle says is somewhat unintelligible or misunderstandable by us.

The author quotes Carlson freely and seems to rely upon his investigations.

For the internist and specialist in diseases of the gastro-intestinal tract, the book is indispensable.

G. H. H.

THE WASSERMANN REACTION, The Clinical Interpretation of. By Robert A. Kilduffe, A.B., A.M., M.D., Director, Laboratories, Atlantic City Hospital; Consulting Serologist; Betty Bacharach Home for Children, Atlantic City, N. J. Formerly director, Laboratories Pittsburgh Hospital, Pittsburgh Pa., et al. Illustrated. Lea & Febiger. Philadelphia and New York. 1926. Price \$2.50.

The small volume written by Kilduffe is especially for the guidance of clinicians who have perforce to deal with laboratory reports based upon work done by other hands. The responsibility to the patient obviously rests entirely in the hands of the physician, so to safely bear this burden any physician who accepts it is in duty bound to have accurate knowledge of the general principles, the excellencies and the pitfalls of this great aid in the diagnosis of so grave and so variable a disease as syphilis. Not only is this book invaluable to clinicians, but every laboratory man should have it on his laboratory table as a constant reminder of the

great responsibility that attends each and every detail of this procedure. Upon the accuracy of the laboratory procedure depends the physician's reputation as well as the weal or woe of the patient. No book now available takes the place of this most excellent manual of interpretation by Kilduffe. F. J. H.

YOUNG'S PRACTICE OF UROLOGY. Based on a study of 12,500 cases. By Hugh H. Young, M.D., and David M. Davis, M.D., Johns Hopkins University. With the collaboration of Franklin P. Johnson. Two octavo volumes, totaling 1,484 pages with 1,003 illustrations, 20 being color plates., by William P. Didusch. Philadelphia and London: W. B. Saunders Company, 1926. Per set: Cloth \$25.00 net.

It has been a great pleasure to have reviewed Young's Practice of Urology. This treatise is a beautiful work presented in a manner entirely different from the usual urological textbook. Each disease is traced through the various organs of the urogenital tract, instead of each organ being considered from a separate standpoint with the various diseases affecting it detailed in a chapter upon the organ. Each phase of urology is thoroughly considered, the most accurate detail is given and the illustrations which accompany each chapter typify in a beautiful manner the subject matter.

There is a great deal of attention paid to historical development. A most excellent bibliography accompanies each chapter as well as innumerable statistical analyses. It is a work which every student should have at his hand. The operative techniques are so excellently illustrated that it commends itself most highly to the surgeon. This work represents a stupendous task and one which is worthy of every effort which has been put in it. It is a monument to its author. J. R. C.

ESSAI SUR UNE NOUVELLE RADIOLOGIE VASCULAIRE. By Manoel de Abreu. 214 pages illustrated. Masson Et Cie, Paris. Price 38 francs.

Radiology of the mediastinum with a consideration of aortitis, aneurysm, etc., including measurements and examination by the X-ray of the ascending aorta. R. L. T.

LES INSUFFISANCES PANCREATIQUES. By M. Chiray and J. Lebon. Masson Et Cie, Paris. 210 pages. Price 20 francs.

A study of the exocrin and endocrin functions of the pancreas and the functional troubles that result from insufficiency of either or both secretions, particularly diabetes. R. L. T.

THE SPECIALTIES IN GENERAL PRACTICE. Compiled by Francis W. Palfrey, M.D. Instructor in Medicine at Harvard University in collaboration with 14 other teachers of Harvard Medical School. Octavo of 748 pages. Philadelphia and London: W. B. Saunders Company, 1927. Cloth \$6.40 net.

This volume is for the general practitioner. It is a practical handbook and ready reference and helps the practitioner to obtain from the specialist the answer to many questions put to the general practitioner—the clinical management especially of the more urgent conditions in which correct treatment is sought and of which the doctor may feel he has need to ask the specialist—so here is the specialist's answer. The teaching of the book is

that of Harvard University as all the collaborators are of that school. Since it is impossible to cover the subject of surgery in ninety pages, it would seem advisable to omit the chapter on surgery from the one volume work (also omit anatomy and the definition of various diseases throughout the work) and use the space thus gained for diagnosis and treatment. For example, the subject of pyosalpinx is covered with this short statement, "The pus or uterine end of the tube, becomes occluded." This does not seem to be a spacious answer for the general practitioner who had sought the specialist on pyosalpinx. The use of the words "may be given," and "may be used," under "Tinea Cruris," is not clear.

The treatment of disease as given in this volume decidedly omits electrotherapy. The general presentation of treatment throughout is decidedly concise and up-to-date. H. N. J.

USE OF HYPERTONIC SALINE SOLUTION IN ACUTE INTESTINAL OBSTRUCTION

E. P. Coleman, Canton, Ill. (*Journal A. M. A.*, April 2, 1927), reviews thirty-eight cases of intestinal obstruction. He divides them into two groups according to the treatment employed. In the second group he used hypertonic salt solution, intravenously or subcutaneously. In the first series, there were twenty cases with a mortality of 50 per cent. In the second group there were eighteen cases with two deaths, a mortality rate of 11.1 per cent. The operative technic was the same in both series. As a rule, the operation was preceded by gastric lavage. Whenever possible local anesthesia was used, sometimes with the addition of ethylene. Before the operation, the administration of a 3 per cent. solution of sodium chloride was started, and continued until a quart had been given. The needles were left in place and 1 or 2 more quarts given within the next few hours, according to the apparent need. It would seem clinically that the use of this solution enables the toxic patient to live from one to three days longer and thus to be able to recover from his operation, whereas without it he would be quite apt to become more toxic and die within a few hours after the obstruction was relieved. The free use of a hypertonic salt solution is effective in neutralizing the toxemia of intestinal obstruction.

OPERATION FOR RELIEF OF PARALYSIS OF GLUTEUS MAXIMUS MUSCLE

Frank R. Ober, Boston (*Journal A. M. A.*, April 2, 1927), transplanted a long strip of fascia lata obtained from the lateral aspect of the thigh to the freed spinal muscles. The outer half of the erector spinae with its aponeurosis was separated from the inner half and from the muscles lateral to it. The muscle thus split off was freed from the body and crest of the ilium, from the sacrum, and from the transverse processes in such a way that a free flap of muscle about 5 inches long, 1 inch wide and three-fourths inch thick was obtained. Then a strip of tensor fasciae latae was freed as in Legg's operation, but the incisions in the fascia were carried down the leg farther. This strip was drawn through a hole drilled through the femur just below the neck at the level of the gluteus maximus tendon. The edges of the fascia were sutured to the gluteus maximus tendon. The free end of the erector spinae muscle was sutured to the fascial flap. The end-result is said to have been good in the fifteen cases in which the operation was done.

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ORIGINAL ARTICLES

CARCINOMA OF THE RECTUM*

THE HODGEN LECTURE

DANIEL FISKE JONES, M.D.

BOSTON, MASS.

May I express to you my great pleasure and deep sense of honor that I feel in being asked to give the Hodgen Lecture for 1927? There are many reasons why it is a pleasure to come to St. Louis tonight. I was born and lived on the west bank of Mississippi until my college days. I have college friends and many professional friends here with whom I have spent many profitable and pleasant days. Some of these friends were made in civilian professional life, others in the army. I might also add that I spent two weeks at Jefferson Barracks waiting to be sent to France. But above all, it is a pleasure to pay honor in my humble way to Doctor Hodgen and the professional men of the pioneer days of medicine and surgery. They were the men who bridged the transition period between the pre-antiseptic and antiseptic periods, and some of them were active in pre-anesthetic days and the days following the introduction of anesthesia. They were fine, virile men full of enthusiasm, ingenuity and broad vision. It is difficult for us who have found surgery established on a firm basis to appreciate the great task that these pioneers had before them. When we consider that some saw the introduction of anesthesia which opened up a great field to them and later the introduction of antiseptic methods with all that it meant, we wonder that they were able to grasp at all such vast opportunities suddenly thrown open to them. We with our many aids to diagnosis can scarcely appreciate the difficulties these men must have had in diagnosis. Many conditions did not then have an established symptomatology, but have only recently been gradually worked out by the clinician, with the aid of the surgeon who has a great opportunity to correlate the symptoms with the pathology found at

operation. These medical men were much the type of the great railroad builders and pioneers in other fields in your city. Where could a more virile, hardy, driving lot of men than these pioneers be found? I look back upon the physicians and civilians of this group whom I have known and heard about, with increasing respect and admiration. A friend asked me what original work a man of this period, or perhaps a few years later than Hodgen, had done, and as I thought over his work I came to the conclusion that most of it was original, for these men were constantly blazing trails into new fields which appear to us of the present day as having always been settled. Hodgen was a typical man of the period,—a hard worker in many fields, teaching, constantly striving to improve medical education, doing new and ingenious operations, and inventing new apparatus, some of which we are still getting the benefit of. All his surgery was done under conditions which the present day surgeon would consider impossible. It takes a much more active mind to think of using a piece of broom wire for the purpose of draining a distended bladder, as Hodgen did, than it does to do many of our laboratory experiments and even our most complicated operations under present conditions. It is true that Hodgen was best known over the country for his splint which is still in use, but while this stands out as his best known contribution, an intelligent and ingenious man like Hodgen did many original pieces of work as the outstanding men of that period did. It is not the original work alone which makes a man valuable, but rather his character, his influence upon the profession, and upon medical education. It is in these ways that Hodgen did more for the medical profession than by his original work. Let us honor and be thankful for men like Hodgen who make an uphill fight against great odds to better medical education and improve the standards of the medical profession in whatever time they may have lived.

To turn to a much less interesting subject than Doctor Hodgen in whose name this lectureship was founded, we will consider the subject of carcinoma of the rectum, than which there are few more dismal, but which I have

*Read before the St. Louis Surgical Society and the Medical Fund Society, at St. Louis, February 16, 1927.

chosen because it has fallen to my lot to give some time to it since 1911, and because of the slight attention it receives from the profession. The subject should be of interest to the general practitioner because the success or failure of the operative treatment depends upon his interest and knowledge of the subject. It should be of interest to the surgeon as at the present time surgery offers the best chance of life and comfort to the patient. That it is important is, we believe, shown by the fact that cancer now occupies fourth place in the list of causes of death. About 12 per cent. of all carcinomata are in the intestinal tract and of these about 65 per cent. are in the rectum. All evidence obtainable tends to show that few physicians have any interest in the subject and so long as physicians lack interest the laity cannot be stimulated to take an interest. A recent example of this state of affairs is demonstrated by a case in which the wife of the patient urged the physician to determine as to whether her husband had cancer of the rectum or not, but in spite of this no diagnosis was made for six months when an inoperable carcinoma of the rectum was found. This may seem to be an exaggerated case but similar statements could be made about a large percentage of the cases. At least 85 per cent. of the patients entering the Massachusetts General Hospital have been treated for a longer or shorter period for hemorrhoids, and in 1913 W. J. Mayo stated that 10 per cent. of their cases had been operated upon for hemorrhoids. It is with regret that we state that the early recognition of these cases has improved but very little in the last twenty years.

What can be done to improve the results of operation in cancer of the rectum? It is useless to hope to accomplish much by any improved operation when the condition is already beyond hope of cure when first seen by the surgeon. Lockhart-Mummery states in his recent book that 82 per cent. of the patients entering St. Mark's Hospital are already inoperable. Early recognition and early operation are the only possible means of improving our results at the present time, and to get early recognition physicians and the laity must be taught the early symptoms which are at least suggestive of malignant disease. The laity are being taught at the present time but it seems to be largely in regard to tumors which can be felt or seen. The family physician and physicians in general must be taught early symptoms and their significance, or any teaching of the patient will be valueless. Not only is there a sad lack of early diagnosis of these cases, but there is a lack of cooperation between the physician and surgeon, because the physician too often feels that the patient might better be dead than to have the necessary operation.

Many physicians feel competent to decide that a given case is inoperable, without consultation, and yet some of our best results have been obtained in patients who have been told that nothing could be done for them. It is true that cancer of the rectum does not occur every day in the practice of a physician, but that is not sufficient reason for leaving it completely out of one's list of diseases. Patients and physicians have been taught by surgeons that certain diseases, notably appendicitis, when operated upon early, give good results; and we must persist with the patient and family physician until it is generally understood that certain symptoms are at least suggestive of cancer of the rectum.

We believe that many of the textbook symptoms of cancer of the rectum should be discarded, for they clutter the mind of many to such an extent that the necessary facts are lost sight of. In addition to this, the symptoms mentioned are practically all those of far advanced carcinoma. If we consider that any change in what was the patient's normal bowel habit or sensation, and bleeding, are the only early symptoms of cancer of the rectum, an early diagnosis will be made not infrequently. If these are the facts, then carcinoma of the rectum must be considered as the diagnosis in every case with such symptoms until some other cause of the symptoms has been discovered. It is true that bleeding may be from hemorrhoids, polyp, fissure, or ulcerative colitis, but we must prove it.

While the period between fifty and sixty is the most likely age for carcinoma of the rectum, we must not forget that it can occur at any age. There were three cases under the age of eighteen and thirty two cases under the age of thirty, among 913 patients at the Massachusetts General Hospital.

Loss of weight is frequently inquired about in making a diagnosis but we believe that the patient rarely loses weight until there is sufficient obstruction to cause loss of appetite. It is the loss of appetite which causes loss of weight and not the toxins from the growth. It is a late symptom.

Not infrequently we hear physicians and patients speak of ribbon or pencil-like stools, but these are, we believe, among those symptoms which clutter the pages of textbooks and the minds of the student and are of little or no value.

A symptom which always occupies an important place in textbooks is alternating constipation and diarrhea. This is unfortunate as we believe it to be of little practical value for two reasons; first, because it only occurs occasionally, or at least it is a symptom which the patient rarely recognizes; second, the patient very seldom recognizes the frequent discharges

as diarrhea. He will frequently mention that he has one or two movements but neglects to mention that he goes to the toilet from five to twenty times a day to discharge gas, mucous, blood, and occasionally a small quantity of fecal matter. If the patient fails to recognize these frequent movements as diarrhea, why should we persist in using the term? It is usually a late symptom. The frequent small movements are of two types, due to two different causes: first, the lateral wall growth causes an irritation of the rectum which brings about an uneasiness and a desire to free the bowel. In this condition the movements are frequently formed, or only moderately soft and are usually accompanied by blood and mucus. This may be an early symptom. Second, the frequent stools are due to an annular growth causing partial obstruction which keeps the bowel above in a constant state of action, pushing through a small amount of liquid feces, gas, mucus, and blood. In this condition the patient may go to the stool from three to twenty times a day and finally becomes incontinent. This condition is always a late symptom and with it there is more or less discomfort from gas, or the rumbling of gas, noted in the large intestine, that is, in the lower abdomen.

Blood in the stool is a valuable and frequent symptom, much more often present than is generally noted. It is true that it is frequently absent in the narrow, scirrhous type of growth and is not noted at other times. In the lateral wall tumors the blood is on the outside of the stool which is often formed and must be looked for carefully and repeatedly. The bleeding in this type of growth will often not be found by the chemical tests as the blood is not mixed with the stool. Blood in the annular type of growth is usually mixed with the stool which is liquid and may, therefore, be found by chemical test, or it may be passed independently of any movement.

Pain is a late symptom in the course of the disease. The most frequent type is a dull ache across the sacral region. Pain in the abdomen is rare. The patient admits only a slight discomfort, or is only conscious of rumbling of gas in the large intestines.

To recapitulate, the only symptoms which should be of especial interest to us, are bleeding from the rectum and any change in the patient's bowel habit or sensations. These symptoms should lead to a positive diagnosis if there is a growth present anywhere in the rectum, by digital examination or by the use of the proctoscope. There is, we believe, no need whatever in seeking further for methods of diagnosis of carcinoma of the rectum. In fact, we believe that the X-ray should not be used until after digital and proctoscopic examina-

tions have been made, as it too frequently errs in the diagnosis of carcinoma of the rectum, and therefore tends to do harm rather than good. A prominent surgeon recently permitted his best friend to go for one year without operation for cancer of the rectum because the X-ray did not reveal it, and yet the symptoms were typical and definite at the time the X-ray examination was made. A classmate has just died who was treated for one year for chronic cholecystitis, a diagnosis made by the X-ray, while the true cause of the symptoms was a cancer of the rectum which the X-ray did not reveal. It is quite likely that many do not agree with these statements and feel that their roentgenologist would not make such mistakes, but I am speaking of the average roentgenologist rather than of special men. An X-ray examination is not needed, so why hamper ourselves with it?

We will not take your time to consider the etiology of cancer of the rectum as little or nothing is known about the etiology of cancer in any location. We may say that there is little evidence to prove that constipation or hemorrhoids have anything to do with the causation of cancer.

The types of growth are adenocarcinoma, squamous cell, and very rarely basal cell carcinoma. As to just what proportion are the scirrhous type depends very largely upon the pathologist who examines the specimens. The degenerative form, colloid carcinoma, occurs in about 15 per cent. of the cases. We have never seen a melanotic carcinoma among about five hundred cases.

While the diagnosis of carcinoma of the rectum is still made very late, some progress has been made in standardizing the operations for this condition. The operative treatment may be divided into three periods: the first, extending up to 1895 when little else than palliative operations were done; the second period from 1895 to 1912 when practically all operations were done by the posterior route and consisted of removing the growth and a small amount of intestine above it; in the third period, from 1912 to the present time, the abdominoperineal operation has been struggling for recognition in addition to the posterior operations.

While Kraske first published his operation in 1885, little progress was made with it for ten years. In 1895 Treves wrote, "Excision of the rectum is now a thoroughly established operation and although at first it met with a great deal of opposition in England, it is now pretty generally adopted as the best treatment in selected cases." The reason for advising operation he gave in the following words: "It would appear from consideration of a large number of statistics that the average duration

of life (without operation) is about two years from the appearance of the first symptoms, and during that time the condition of the patient is truly miserable." While these two statements were written thirty two years ago, they apply about as well today as they did at that time.

Treves had very little in the way of statistics to base his statement on in 1895 as there were comparatively few groups of cases that had been followed, but later we find a sufficient number of cases followed to give us an idea of the value of the posterior operations. Harrison-Cripps in 1912 reported on a group of 445 cases seen by him. He operated upon 108 of these with a mortality of 15 per cent. Of those operated upon 39 per cent. lived three years, excellent results for such a limited operation, but we must not forget that he operated upon but 25 per cent. of the cases seen by him,—in other words, but 8 per cent. of the entire group were alive three years later.

Henri Hartmann collected from various clinics 1665 cases operated upon by the posterior route. The known results in 982 cases were: 16 per cent. died from the immediate effects of the operation; 58 per cent. died within three years; 26 per cent. lived three or more years. It is probable that not over 25 per cent. of the cases seen were operated upon by that group of surgeons. It is difficult to feel any enthusiasm about the treatment of any condition when but six or eight patients out of every hundred seen are alive at the end of three years. It is difficult, therefore, to consider the results of the posterior operation as satisfactory.

In 1883 Czerny advocated a combined abdominoperineal operation but it made no impression upon the surgeons of the time, and it was not until twenty eight years later that Mr. Ernest Miles again advocated it. This operation was, we believe, the only logical one when we consider the rules for the removal of cancer of other organs. Up to this time the growth had been removed by a narrow margin with little consideration of the lymphatic drainage of the area. Miles, after a very careful piece of work on the lymphatics of the pelvis, carried out the principles established for the removal of carcinoma in other organs. The operation met opposition at once and that opposition has continued up to the present time, largely because of the high mortality, the difficulty of the operation, and the belief that the growth remained localized in the bowel for a long period.

In 1911 Mr. Edwards before the Royal Medical Society said: "My chief object is to enter a protest against the performance of an unnecessarily severe operation with heavy mortality in cases attended with but little risk to life, and which moreover entails no crippling of the patient." Mr. F. T. Paul in 1912 is re-

ported as saying, "Why should we undertake an extensive excision of the mesentery for removal of glands which in all probability are not infected?" Mr. Herbert H. Brown said before the British Medical Association in 1920, "But I can assure you that a considerable proportion of patients upon whom I have operated, generally by the Kraske method, during the last fifteen years are now alive and in good health." Statements such as these, no one of which can be substantiated, had a very definite deterrent effect upon the efforts to introduce the combined abdominoperineal operation.

There may be some justification for Mr. Paul saying that the glands of the mesentery are not involved because of the statement by Hausman, reported by Charles Mayo, "that in a series of cases dying of carcinoma of the colon, the growth was found still confined to the bowel wall in 50 per cent. of them," and recently there is still further justification to be found in the report from the Mayo Clinic that the glands were involved in but 43 per cent. of the cases of carcinoma of the colon operated upon by them. These statements indicate that cancer cells are being spread about the pelvis by the operation in more than 50 per cent. of the cases operated upon, for if these statements were correct we should have 50 per cent or over of permanent cures, and at the present time we doubt if there are more than three or five per cent. of permanent cures. The remark of Bloodgood in regard to cancer of the breast is apropos in regard to this statement. He said, "It makes little difference what surgeons think, these cases (cancer of the breast) are all dead within a comparatively few years, whether we believe they die of cancer or not."

Until within a year or two we have been dependent very largely upon impressions of surgeons as to whether the various operations gave good results or not, but fortunately we now have statistics for the more recent operations done by the posterior route, and for the combined abdominoperineal operation. The statistics for the posterior operation were quite unsatisfactory until the recent statistics of Lockhart-Mummery were brought out. It was because of the earlier statistics that we attempted to improve matters by using the extensive combined abdominoperineal operation in all cases. It was also Mr. Ernest Miles' statement in regard to involvement of the lymphatic gland of the pelvis that made us consider this more extensive operation. Probably the most reliable and comprehensive description of the lymphatics of the pelvis is that of Mr. Ernest Miles who divided them into three zones: (1) the zone of downward spread, that is, the perineal skin, ischioirectal fat, and external sphincter; (2) the zone of lateral spread which

includes the levators, retrorectal lymph nodes, those in relation to branches of the internal iliacs, prostate, base of bladder, posterior vaginal wall, and base of broad ligaments; (3) the zone of upward spread, this is, the peritoneal floor of the pelvis, pelvic mesocolon, paracolic lymph nodes and a group of glands at the bifurcation of the left common iliac artery. These zones were mapped out by Miles from recurrences following four series of cases; the operations in each succeeding series being more extensive than in the preceding. It is the zones of upward and downward extension of Miles which are of the greatest importance in determining the operations to be advised. If we accept Miles' work on the lymphatic involvement in cancer of the rectum, and we believe it is the most convincing work that has been done, there will be very little difficulty in determining the type of operation best suited for removal of carcinoma of the rectum anatomically. This means the removal of the main lymphatic channels which follow the course of the superior hemorrhoidal and inferior mesenteric arteries and a complete dissection of the pelvis, with removal of the levators, ischiorectal fat, and sphincter. This can only be done by an abdominoperineal operation, which is anatomically ideal. While we believe this operation to be the operation of choice in suitable cases, we are convinced that removal of the growth gives so much relief that we must be equipped with at least five operations to suit the various conditions met with. Many patients are too old, too fat, or too feeble, to withstand the one stage operation. We have, therefore, developed a combined abdominoperineal operation in two stages which permits us to remove the higher growths in the poorer risks. For the poor risk with a low growth we now use the two stage operation sponsored by Lockhart-Mummery, which consists of a permanent colostomy, without dissection above, and excision of the rectum through a posterior incision from ten days to two weeks after the colostomy. This operation has proved a boon in certain cases and has been used more frequently since the publication of Lockhart-Mummery's excellent results. As this operation is useful for low growths, we must have an operation less extensive than the combined abdominoperineal operation in two stages for the rectosigmoid growths in very poor risks. For this purpose we have found the operation advocated by Doctor W. J. Mayo very useful in a limited number of cases. This operation consists in carrying the dissection in the abdomen downward from the bifurcation of the aorta to below the growth, where the bowel is double clamped and cut across with the cautery. The inferior mesenteric artery is tied just below the left colic, and the upper portion

of the pelvis is cleanly dissected. The growth, upper rectum, and sigmoid, are turned out and the growth, with the mesentery and lower sigmoid, excised. The proximal end of the sigmoid is brought out for a permanent colostomy and the proximal end of the rectum is turned in by a double row of chromic catgut sutures. This is a splendid palliative operation for it relieves the patient of the growth and all its disagreeable features, gives the patient the mental comfort of knowing that the growth has been removed, and all is done by a comparatively simple operation.

There are a few cases in good enough condition to withstand a combined operation in one stage in which the growth is at the proper height, the sigmoid of the proper length, and the growth sufficiently well localized to make it reasonable to amputate the rectum and pull the sigmoid down through the sphincter, that is, to resect the rectum, leaving a wide enough margin above and below it and to restore the continuity by bringing the sigmoid through the sphincter.

While these five operations may give the impression that there are too many, we believe that one should not attempt to operate upon cancer of the rectum unless he is prepared to do at least the first four. To confine oneself to a single operation would reduce the percentage of operability very much, and we are attempting to give these patients some comfort by increasing the percentage of operability. To attempt to advise as to what operation shall be used in a given case, or in what proportion of times each shall be used is impossible. The operation chosen for a given case will depend much upon the experience of the surgeon with the various operations.

Coffey has felt the need of a two stage operation and has developed what appears to be a very useful procedure. The objection to this two stage operation is that he depends upon infection to make the second stage easy; it would seem necessary, therefore, to continue the second stage on a given day. We find this very difficult as some of our patients are too ill to operate upon inside of ten days or two weeks.

Resections of the rectum and suture have been almost completely given up; the percentage of early recurrences is too high, permanent leakage is frequent, recurrence is likely to take place at the site of the suture, and any suture below the peritoneum is likely to cause a stricture.

It will be seen that all of the operations except one which we have advocated require a permanent colostomy, the great stumbling block to the patient, the physician, and to many surgeons. To consider restoring the continuity of the bowel in cancer of the rectum in more than a very occasional case, would make us give up

operating for cancer of the rectum at all, we are so convinced that it is a bad operation in most cases. The objections to restoring continuity are:

1. The temptation to section the bowel too close to the growth either above or below, and to leave infected glands, is too strong. End results must be better with nothing to hamper the surgeon as to the extent of his dissection.

2. The mortality in resections must be higher if an extensive operation is done.

3. The sphincter is not infrequently incontinent, or a fistula develops, and in either case the patient is worse off than with a colostomy.

4. Because of the necessity of depending upon the small arches of the sigmoid for blood supply, sloughing of the lower portion of the sigmoid is not infrequent.

5. Recurrence takes place in a high percentage of cases in the pelvis and a recurrence of obstruction may take place.

6. After seeing a large number of patients with a colostomy, we have been convinced that they can and do live happy and contented lives and do their usual work. A colostomy gives them the best possible chance for life and for a permanent cure.

The particular operations which I wish to call to your attention are the combined abdomino-perineal amputation of the rectum in one and two stages. It will be seen that these operations include all the area mapped out by Miles as including glands which may become involved.

The combined operation in one stage is done through a paramedian, muscle retracting, incision on the left. Peritoneal flaps on both sides of the sigmoid and rectum are dissected up by blunt dissection, with scissors, through a small opening in the peritoneum of the mesentery of the sigmoid. The dissection is carried out to the ureters laterally and to the seminal vesicles below. An incision is then made along the mesentery of the sigmoid and side of the rectum one half to one inch distant from the bowel to the posterior wall of the bladder where it crosses to the other side. After turning back the peritoneal flaps the dissection is begun at the ureters, carried over the great vessels into the hollow of the sacrum, downward to the levators and upward to the bifurcation of the aorta. The great vessels are cleanly dissected as this gives the proper line of cleavage to clear the pelvis by blunt dissection. Anteriorly it is carried down beneath the bladder with the scissor dissection to the tops of the seminal vesicles. The superior hemorrhoidal is now tied at the level of the bifurcation of the aorta, after which it is decided as to whether a one or two stage operation is to be done. If a one stage operation is decided upon, the sigmoidal branches and arches are tied, the sigmoid is double tied and sectioned

between with a cautery. The proximal end is brought out for a permanent colostomy and the distal end inverted and dropped into the pelvis. The peritoneal flaps are sutured over the pelvis, and the proximal sigmoid sutured to the lateral and anterior wall of the abdomen to prevent the small intestine from going down between the bowel and the lateral wall. The sigmoid is brought out of the paramedian incision about an inch and a half below the umbilicus, for a permanent colostomy.

If, on the other hand, it is decided that a two stage operation is best, after tying the inferior mesenteric artery, the mesentery is split parallel to the sigmoidal branches to the sigmoidal arches which are carefully preserved. More sigmoid is pulled down and brought into the paramedian incision for a permanent colostomy. This procedure should bring down enough sigmoid to put several inches of bowel, below the colostomy, into the pelvis with the rectum. The peritoneal flaps are sutured over the pelvis and about the sigmoid. The proximal leg of the sigmoid is sutured to the lateral and anterior walls as in the one stage operation. The wound is closed about the colostomy in both the one and two stage operations and, after closing it in the one stage operation, the patient is put into the reversed Trendelenburg position. An incision is made over the sacrum and about the anus. The anus is closed with a suture and about half the coccyx removed. It is important not to free the glutei from the coccyx if it can be avoided because of the great tenderness and severe pain which it frequently causes during convalescence. All the ischio-rectal fat is freed and the levators cut close to their lateral attachments. The pelvic fascia can now be seen covering the rectum and extending forward about the prostate or vagina. By cutting through this fascia the dissection is easily carried down upon the prostate or vagina; if it is not cut through the dissection can easily be carried well around the prostate and vagina unintentionally. The dissection is now easily carried upward anteriorly and posteriorly into the field of operation above, which leaves only a moderate amount of dissection on either side and the clamping of the middle hemorrhoidal arteries. The skin is brought together by mattress sutures to prevent the edges from rolling in. A cigarette wick may be used or the wound may be closed without drainage. If closed, the serum must be evacuated occasionally and not infrequently a wick will have to be put in.

In the two stage operation the colostomy is opened after twenty-four hours, and as soon as the patient is ready, from five days to two weeks, the patient is given spinal anesthesia, and the same dissection as in the one stage operation is carried out. After freeing the

bowel and bringing all the bowel put into the pelvis down as far as possible, it is clamped just beneath the peritoneal flaps and sectioned. The proximal end is either inverted by a suture or tied, depending upon the ease with which the suture can be put in, and the condition of the patient. The wound is closed in the same way as in the one stage operation. This operation leaves the patient with a double barrel colostomy and a small piece of bowel extending from the colostomy to the pelvic cavity beneath the peritoneum.

The colostomy used is the simplest variety the bowel being brought out the original incision. We have had little difficulty with infection of the wound and the location is best for the convenience of the patient and for the colostomy belt.

In the double barrel colostomy used in the two stage operation, the loop is held up by a piece of fascia from the sheath of the rectus put through beneath the bowel and also a piece of skin. Great care must be used in putting the skin and fascia beneath the bowel in order to avoid injury to the sigmoidal arches which are necessary for the blood supply to the segment below. We have been fortunate up to date in that we have had no sloughing and no infection beneath the peritoneal flaps after the first stage.

There has been much written about colostomies which control the contents of the bowel, but we have been unable to find any that would control the bowel except when the patient is constipated and the simplest sort will work then. These operations are too long and too complicated to spend many minutes on a complicated colostomy without more evidence than we have that they can control the bowel. The attention given by the patient to the regulation of the bowels after operation is far more important than the type of colostomy. A colostomy which has recently been reported would require so much bowel that the value of the extensive operation would be lost and very few of these patients are in sufficiently good condition to withstand the extra time required to do it.

When radium was first introduced it was hoped that the use of it would take the place of surgical operations in a large percentage of cases, and at least it was hoped that it would relieve the surgeon of operating upon many of the advanced cases. We have been much disappointed in the radium treatment of many of these cases. It is difficult to apply the radium to many of the growths, especially the high ones, and the use of radium in growths close to the sphincter is, we believe, contra-indicated because of the severity and the long duration of the pain which it causes. We have also seen a few cases in which the sphincter has been made incontinent. It is our rule, working in

conjunction with the Huntington Hospital, where the radium work is done, to operate upon all patients who are fit subjects for operation in which there is reasonable ground for believing that the growth can be removed. There are comparatively few growths which are neither too high nor too low, and are of a type which will permit the application of radium to all parts of it with any degree of certainty. We have not avoided the use of radium because we prefer operations, but because we have been forced into the belief that operation gives a higher percentage of three and five year cures than radium does. As many of these operations are done for the relief of symptoms, it seems hardly reasonable to use radium in those cases which are frequently made uncomfortable. We have been obliged to operate upon several cases treated with radium because of the severe and continued pain. It is true that radium is of great value in relieving many patients who are too old, too feeble, or too fat for operation, of the bleeding and discharge, and many of them for periods varying from one to five years, but this we believe has occurred only in carefully selected cases. The reports on the cases treated by radium are much like the early reports on the posterior operation, that is, they are impressions or reports of a small series of cases. Many men who treat these cases with radium can tell of a patient who has lived comfortably for three or more years, but the total number of patients who are made comfortable and made to live more than the average length of life of patients without radium, is not obtainable.

The present time is a very fortunate one to consider the operative treatment of carcinoma of the rectum because in 1925 the end results of a series of cases treated by colostomy and perineal amputation were reported by Gabriel in the *British Journal of Surgery*, January, 1925, and in July, 1926, another group of cases operated upon by the same method, was reported by Lockhart-Mummery in the *British Journal of Surgery*. We have groups of statistics of the older posterior operations with and without colostomy which give most unsatisfactory end results, that is, an operability of about 25 per cent., a mortality of 16 per cent., and three year cures varying from 26 per cent. to 39 per cent. We now have a series of 178 combined abdominoperineal operations to compare with the more recent operation of posterior excision, as carried out by Lockhart-Mummery and St. Mark's Hospital in London.

We regret that there is no uniform method of reporting end results. The Massachusetts General Hospital has adopted a standard suggested by R. B. Greenough which, if adopted by all hospitals, would finally give us statistics of some value. We should at least know the total

number of cases seen, the total number operated upon, the immediate mortality, and the three and five years cures obtained by using the same figures, i. e., either including deaths or excluding deaths. It would be difficult to do this in cases of carcinoma of the rectum and would probably be so depressing that the operation would be given up entirely.

That we have made some progress in recent years can be proven, we believe, by using the Harrison-Cripps statistics, the best reported for the earlier posterior operations, and by comparing them with our group of cases operated upon by the combined abdominoperineal method. Mr. Harrison-Cripps saw 445 patients, operated upon 108, with a mortality of 15 per cent., and had 39 per cent. of three year cures. Thus about 8 per cent. of the patients seen by him were alive three or more years later. In considering our own group our mortality was 23 per cent., but the operability was increased from 25 to 65 per cent., and 70 per cent. of the patients lived three or more years, giving a total of 34 per cent. of all patients seen, alive at the end of the three years, a considerable gain but far from satisfactory.

By referring to Mr. Ernest Miles' work on the lymphatics, it will be seen that the combined abdominoperineal operation removes all glands that are likely to become infected. The operation is difficult and the mortality high, but it appears to be logical. It is rather discouraging, and at the same time cheering, to find that Mr. Lockhart-Mummery reports that his much less extensive perineal excision gives, in his hands, a much lower mortality and just as high a percentage of three and five year cures as the combined abdominoperineal operation. The only difficulty is that he has not given us his percentage of operability, and as shown above, this has more to do with the number of patients who live three and five years than the immediate mortality.

The mortality in our group of cases has been excessive. Our hospital mortality of 32 per cent. is not reasonable, but can be somewhat accounted for in four ways. (1) The disease is farther advanced in hospital patients when they enter, and their general condition is not so good as those in private practice. (2) The house staff is a constantly changing one and the supervision of the patients is not so expert as with a trained assistant, nor does the operation go so smoothly with untrained assistants as with trained men in private. (3) Our series of cases includes all of the cases done by this method, and in the early cases there were many errors in judgment and too much enthusiasm to undertake hopeless operations. They also contain many cases in which the bowel was sectioned and put below the peritoneum in an ef-

fort to carry out a two stage operation in this way. This resulted in sepsis and death in several cases. That we undertake desperate cases is shown by the fact that this series includes a radical operation on six patients with nodules in the liver. (4) It is impossible to carry out such an operation with as low a mortality on 65 per cent. of the cases which present themselves as if it were carried out in a smaller selected group, as is done with the posterior operation. The real test of the value of operative treatment depends upon the percentage alive at the end of three or five years out of the *total number of cases seen*.

Table 1. *Immediate Mortality*

	No. Cases	Posterior Operation	Abdomino-Perineal	Colostomy and Posterior
Harrison-Cripps	108	15%		
Lockhart-Mummery:				
Private	100			3 %
Hospital	100			14 %
Combined	200			8.5%
Gabriel:				
St. Mark's	143			15.4%
Jones:				
Private	77		11%	
Hospital	101		32%	
Combined	178		23%	

The mortality of 11 per cent. in our private cases which has been but 7 per cent. until recently, is, we believe, satisfactory for this operation, in spite of the fact that it is far above Lockhart-Mummery's 3 per cent. in the 100 cases in private practice. His total mortality of 8.5 per cent. as opposed to 23 per cent. for our cases of abdominoperineal excision, is disturbing. We believe that in spite of our total mortality of 23 per cent. for hospital and private cases, it can now be reduced very materially without reducing the percentage of operability. The statistics for the Lockhart-Mummery operation reported by Gabriel from St. Mark's Hospital, where one half of Lockhart-Mummery's statistics come from, show a mortality of 15.4 per cent. which is one half of that of our hospital series; but the percentage of operability was only 44 per cent. as opposed to 65 per cent. in our cases.

Recurrence figures appear to us to be of little value. In those cases in which the rectum and anus are removed it is difficult to determine as to whether there is recurrence or not. Many of the cases report by letter, or through their own physician, and are quite unreliable. The best that we can say of most of these patients is that the patient is alive and comfortable or uncomfortable, or dead. Deaths from other causes than cancer are uncertain, and until our cures are longer than three or five years, it would seem best to count all patients dead as having died of recurrence.

If the two groups of cases, that is, perineal and the abdominoperineal, are treated as nearly

alike as possible, it will be seen from Table 2 that there is very little difference between the three and five year cures in the two series. Lockhart-Mummery reports 55.5 per cent. of three year cures, while our combined abdomino-perineal operation gives 70 per cent. He reports 53.6 per cent. of five year cures, while our series gives 52 per cent. It will be seen that unless we consider the percentage of operability, the figures are all in favor of the posterior excision of the rectum with a permanent colostomy, as the mortality in that group is but 8.5 per cent. as opposed to 23 per cent. in the abdominoperineal group. It is of interest to note the difference in the statistics reported by Gabriel from St. Mark's Hospital for the Lockhart-Mummery operation, Lockhart-Mummery's own statistics, and those for our own perineal operation. The St. Mark's statistics give 28 per cent. of three year cures as opposed to 55.5 per cent. in Lockhart-Mummery's series and 50 per cent. in our own. St. Mark's statistics for five year cures show 28.5 per cent., Lockhart-Mummery 53.6 per cent., and our

in what growth they think they can remove by the perineal route alone. Mummery has evidently developed his technique to such an extent that he can remove all growths except those "at the rectosigmoid junction and above," as he says. If one is to operate upon many cases he will, we believe, be limited at times in the use of the perineal operation because of the size of the growth, even in those below the rectosigmoid junction. A very disturbing feature of the recent statistics is that while Lockhart-Mummery reports 55.5 per cent. of three year and 53.6 per cent. of five year cures, the group of men, including Lockhart-Mummery, operating at St. Mark's Hospital have only 28 per cent. of three and 28.5 per cent. of five year cures. These statistics are little better than the older statistics for the posterior operation; in fact, not so good as those reported by Harrison-Cripps. If we are not careful, therefore, in the use of the perineal operation, we shall be going back to the statistics of the period from 1895 to 1912, which would be a great calamity.

Table 2

	Percentage of operability	Mortality	Percentage 3 yr. cures deaths excl.	Percentage 5 yr. cures deaths excl.	Percentage of all patients seen alive 3 yrs.
Harrison-Cripps. Posterior operations.....	25%	15 %	39 %	.....	8%
Gabriel. St. Mark's. Colostomy and post....	44%	15.4%	28 %	28.5%	10%
					(Opbly. estimated at 50%)
Lockhart-Mummery. Colostomy and post... not given		8.5%	55.5%	53.6%	25%
Jones. Combined abdomino-perineal	65%	23 %	69 %	52 %	34%

own series 47 per cent. We believe that the difference in percentages between the Lockhart-Mummery statistics and those of Gabriel must be due to some difference in the method of obtaining the figures, although it is quite possible that the difference is owing to the fact that the St. Mark's operations were done by a group of surgeons, including Lockhart-Mummery, and the other by an individual.

The statistics of Lockhart-Mummery when compared with those for the combined abdominoperineal make it necessary for us to consider rather more seriously the perineal operation as advocated by him, for the percentage of three and five year cures are the same and the mortality in this operation is much lower than in the combined abdominoperineal operation. It is useless to continue a severe operation with a high mortality if we can get the same results with a much less extensive operation with a much lower mortality.

While this is evident we must remember that even Lockhart-Mummery advises the combined abdominoperineal operation in high growths. It is evident also that surgeons will vary much

It is our belief consequently that the growth should be removed whenever possible and in order that we may do this in the largest possible number of cases we are convinced that the four operations mentioned above must be used in appropriate cases.

It is our habit to consider the comfort of the patient as of first importance, but always with the hope that we may cure permanently a certain small percentage. If we can remove the growth and give the patient one or more years of mental and physical comfort, we feel that the operation has been justified. The patient with a colostomy without removal of the growth is not a cheering spectacle, while a patient with a colostomy and the growth removed is usually a cheerful individual.

We must repeat that it is not the operation that is now at fault but rather the patient and the physician who delay in getting to the surgeon. It is through these two individuals, the interested party and his adviser, that progress must be made.

IS THERE A FRACTURE PROBLEM— IF SO, WHAT IS THE SOLUTION.*

NORVELLE WALLACE SHARPE, M.D.

ST. LOUIS

I.

It requires neither mastery of elaborate historic data—the vision of annointed eyes—nor yet the esoteric wisdom of a pundit, to determine that from the earliest ages of the human race traumata of various sorts have been a constant accompaniment of existence, and that injuries of bones and joints have evidenced themselves with unfailing regularity. While the dilettante observer may assume that fractures were more frequent during the remote ages, and during a more stressful existence, and that in these days of comparative luxurious ease they are relatively rare, less flexible judgment will indicate that we know but little of early trauma statistics, and that the life of recent centuries, irrespective of the luxury increment, fairly teems with the occurrence of fractures of most diverse types. Of a truth our current civilization, though rich in accomplishment for the amelioration of human distress, cannot be held notably to have abated either the numeric incidence of fractures, or the grave significance of the ever present Fracture Problem.

From time to time the writer has published discussion of various fractures and appropriate fracture treatment, but such is not the purpose of this notation. Rather is a brief survey of the general Fracture Problem invited, and a constructive solution submitted for consideration.

It is to be noted that somewhat frequently a layman is found who brazenly exploits his skill in the handling of traumata of bones and joints. Without stressing the obvious fact that such vaulting allegations are usually in direct proportion to the crass ignorance of the claimant, it behooves us to recognize that such assumptions of erudition and skill are but logical outcroppings of the average lay mind, to which anatomic complexities are a *terra incognita*, and the adjustment of a fracture requires but the manual deftness commonly activated in the glueing together of the fragments of a broken walking stick. Nor may our courts, on the average, be found to rise conspicuously beyond the lay norm, nor yet be held guiltless of the like juvenile concept.

These be the days of extraordinary surgical cleverness, and woe betide the luckless wight who is not prepared, at any gathering medical, to quote his voluminous statistics of excochleation of subtentorial growths, ligations of the

abdominal aorta, panextirpations of the colon, release of cardiac stenoses, and such other pleasing postprandial activities that readily occur to the questing mind, and that regularly precede the usual and more stressful activities of an afternoon on the links. Indeed quite a few very excellent gentlemen view fractures and fracture problems as frankly elementary matters hardly worthy of the attention of a highly finished surgeon; not rarely likewise is it found that colleagues engaged in the minor and other nonsurgical fields, obligingly undertake charge of a fracture case, presumably to gratify the craving of some long time friend or patient who cultivates the medieval yearning for "the personal touch." It is not unreasonable to assume that this courteous complaisance is but the subconscious mental response to the attitude of easy indifference that is more or less steadily permeating the general profession in regard to this field.

Consideration will show that to the foregoing three major end results may fairly be determined to be due in whole or in part:—(1). A very generous number of instances of poor anatomic and functional results. (2). An unceasing stream of claims and litigations. (3). The rise of the flamboyantly pretentious cults of chicanery and ignorance.

Suffer me to be somewhat more explicit: the *dolce far niente* attitude of the general profession toward the traumata of bones and joints has been and is open to fair criticism; and were it not true that there yet remains a group of surgeons which steadfastly recognizes the exceeding interest, so well as the obvious complexities of fracture problems, the inroads of the cults of pretence would have been yet more disastrous, and the prostitution of the public by them rendered even more drastically thorough.

Surely before this group of colleagues it should be held quite unnecessary to stress the fact that the last twenty five years have shown remarkable constructive achievement in the surgery of bones and joints. In fact so brilliant are the achievements wrought today by competent surgeons, working in congenial environment, aided by a sufficiency of suitable equipment, that it would seem timely to warn all general practitioners, all specialists in non-surgical fields, in fact quite a few surgeons also, that the best results for their friends and patients will be secured if they refrain from instituting control and treatment of traumatized bones and joints; and, instead, refer such to men vitally interested in these problems and competent to assume the responsibility of treatment.

Possibly the crux of the problem may be rendered more lucid if I be permitted an illus-

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tration comprehensible to the man who maintains a motor. Visualize the obstetrician who adjusts the fractures sustained in the parturitive episode, the pediatricist who cares for the fractures of infancy and early childhood, the internist who assumes such a large proportion of the entire fracture group, and the occasional nonsurgical specialist who good naturedly "sets" the arm or leg of a personal friend because, forsooth, he is a physician and the friend is a friend. It would not be a difficult task, at this point, to detail quite a few cases, seen either directly or in consultation, in which the unfortunate end results are precisely what might have been anticipated. But to our muton—how many of these gentlemen, excellent fellows all, in fact many of them accomplished physicians, would you have entrusted the lapping of the pistons of your motor, the complete assembly of your transmission, or the pouring and fitting of your main bearings; and yet, quaint concept though it be, I can assure you that many fracture problems require a mechanical vision and a mechanical skill that make the foregoing mere child's play. Question: has this comparison been greatly weakened by the entire omission of all anatomic knowledge, and the frank reduction to the low plane of mere mechanical deftness?

The present occasion does not call for analysis of the prime importance of physiologic restitution, nor for stressing that excellent physiologic restitution may often be attained without perfect anatomic restitution; nor will time be consumed in adverting to the frequent grotesque flounderings of bench, bar and jury, gullibly led astray by the crafty interpretations of subsidized attorneys, upon sundry X-ray plates, concerning which they have absolutely no understanding.

It is assuredly a precious privilege to be able to stem the onslaught of the predatory spoils-men against the fair name, the honest craftsmanship, the well earned competence of a valued colleague. But surely it is stretching the bands of friendship nigh to the breaking point, and bedraggling Truth beyond all seemliness to be asked to testify regarding faithfulness of purpose and competency of skill and method, when the evidence of inadequacy of both skill and method fairly clamors for honest exhibition and a just retribution. How near is the day, do you fancy, when skilled and conscientious men will resolutely refuse longer thus to stultify themselves?

Perchance the colleagues will pardon a momentary excursus, and will permit a word of warning to the self-sufficient members of the profession—the popular practitioners—the well-satisfied-with-things-as-they-are men. The suggestion is submitted that with the continued

displacement of conservatism and sanity by radicalism and lawlessness, that with the progressive arrayal of the proletariat against the bourgeoisie, the unskilled against the skilled, the ignorant against the learned, mass against class (call it what you will), there may confidently be anticipated a substantial multiplication of the spawn of the blackmailers, under the complacent nurture of an increasingly subsidized and putrescent system of jurisprudence. I am aware of no field more amenable to their foul onslaughts than that yielded by traumata of bones and joints.

II.

The foregoing fragmentary protocols but refresh our minds that there is a Fracture Problem (which for the present occasion will also be held to include the traumata of joints). That from the hands of competent surgeons interested in such matters, working in congenial environment, and aided by a sufficiency of suitable equipment, admirable results may be anticipated; that the end results, in the general average of fracture cases, is by no means what it should be; that the Fracture Problem contributes, directly or indirectly in no small measure, to the growth and enrichment of the cults of pretence.

For its solution: it assuredly requires no extended argument to determine that every encouragement should be granted men versed in this field of endeavor, and that congenial environment and adequate equipment be made available for their beneficent work. Nor should this be held merely as a plea in betterment for a comparatively small group of surgeons, admittedly competent individually and collectively; rather is it a plea for the rights of the fractured; and yet more is it to be construed as directing attention to the fact that this ever present major problem is essentially a community problem, in which the community is to be held as having vested and vital interests that are entitled to respectful and intelligent consideration.

The day is not so remote when the average hospital could, on demand, offer some bulk plaster of paris, a few plaster bandages, some adhesive plaster, a few metal splints of various shapes and sizes (ordinarily discarded by prior cases) and some wooden splints, or usually some boxes from the store-room; wire nippers, pliers, pulleys, fracture beds, overhead frames, were most rarely seen, and an equipped shop, for building special and individual apparatus, was but a figment of dreams, and the visionary dreamer held an unreasonable staff member, whose quaint foibles were to be endured, so far as possible, with courteous and restrained indulgence.

Things are somewhat better now; quite a few hospitals have wakened to the fact that the fracture case constitutes a dependable factor, indeed a substantial factor, in the annual total of hospital days; and that to expect the surgeon to evolve adequate apparatus for the widely varied fractures of an active service from the fag ends of routine hospital equipment well nigh out-pharaohs the Assyrian Rameses in his spectacular gesture on the sun-baked plains of Goshen, of the wholesale construction of brick without a straw binder.

It may be unreasonable to assume that the technical impropriety made effective appeal to the average hospital trustee or superintendent; perchance then it was owing to their keen reaction to the disesthetics of the situation; be that as it may, it is now a bit unusual to find the fracture case interpolated in the gynecologic, internal medicine, eye, ear, nose, and throat wards, indeed commonly he may now be found warded with the surgical cases. Surely this is improvement indeed; but after all is said, is not he entitled to wardage among his own tribe, for after the early days of intensive study and adjustment, the average fracture case is practically noninvalid, though arbitrarily rendered more or less immobile for a season in order to attain sundry specific terminal results. To what end therefore should he be domiciled among those gravely ill, himself needlessly oppressed by their sufferings, and too often his normal and legitimate exuberant vitality trespassing upon suffering wardfellows to whom quiet and repose are essential. Surely the rights of the fractured have hitherto been given scant consideration.

We are thus brought to realize that obviously what is needed is a specialized fracture service in our major hospitals, with a well defined surgical personnel, a chief, resident surgeons, nurses, and an adequate supply of all essential instruments and equipment, a well furnished shop under the charge of a competent mechanic, and fracture wards furnished with beds, frames, and other incidentals of approved design.

While it would be jejune to demand that the average county hospital, nor even the majority of the small hospitals in our great metropolitan centers, be thus equipped, it is maintained that all our major hospitals should assume this task, that all hospitals drawing their clientele largely from concentrated industrial areas should do so; and last, but by no means least, all hospitals directly or indirectly coordinated with our Class A medical schools should be held definitely deficient in a major obligation to both student and community until so equipped. The foregoing exception made in favor of county hospitals and the small hospitals of metropolitan

centers may, with all propriety, be likewise extended to the smaller and more isolated hospitals of the Army, Navy and Public Health Service; by contrast however there is no palpable reason why the great permanent hospitals of these services be exempted from a fracture service as outlined, nor why in war time the relatively static major hospitals of the army, situate in the Theatre of Operations, should be permitted to be deficient in this constructive field.

III.

The foregoing remarks touch upon the rights of the fractured, the legitimate claims of the surgeon (specially interested in this field) for suitable environment and equipment, and the fact that the Fracture Problem is to be construed as a community problem, which like all legitimate community problems exhibits legitimate vested rights and interests.

There is yet another matter suggested in the foregoing and worthy of consideration, in that it involves the rights of the medical student, the embryonic practitioner of tomorrow upon whose shoulders is soon to fall the responsibility of assuming the care of the fractured. Study of the curricula of Class A medical schools evidences a growing tendency to develop contact between the hand, the eye, the ear, the mind of the student, and the patient himself. The superiority of contact teaching over purely didactic instruction (so ably sponsored by Osler and they of the Oslerian ilk) is steadily coming into its own.

But the point is raised, to what extent is the average student in the average Class A medical school brought into direct personal contact with fractures and dislocations. In many instances he has been granted direct manipulation of the parturient female, quite occasionally the clinical facilities of general surgery, internal medicine, and the specialties, have been rendered more or less accessible to him; but surely it is quite obvious that neither clinical fracture demonstration, but more particularly direct fracture manipulation, have been granted the consideration, nor made available for acceptance, nor rated in the current gradings, in proportion to the gravity of the ever present Fracture Problem, the widely disseminated, the constantly in evidence, the economically, the functionally, the financially, the forensically dangerous Fracture Problem.

If in rebuttal it be alleged that during his internship the recent graduate will have ample opportunity for study and the perfecting of his technique for the fractured, and that the issue will thus be met as a matter of routine procedure, cognizance must be taken of three fatally pragmatic weaknesses: first, a substan-

tial proportion of hospitals granting internship offer an exceedingly limited fracture service; second, the average recent graduate fails to make intensive study of fracture cases, largely because of the minor importance that has been granted them by his Alma Mater during his undergraduate days; third, not every graduate serves an internship.

IV.

This problem may not be held a problem essentially of today, one of the numerous riotously exotic outcroppings of our current, turgid, turbid, turbulent civilization. Rather is it of ancient lineage; suffer me to quote the dictum of Hippocrates, writing *circum* B. C. 400. "I know physicians who have the reputation of being skilled in giving the proper positions to the arm, in binding it up after fracture, while in reality they are only showing their ignorance. But many other things in our Art are judged of in this manner, for people rather admire what is new, although they do not know whether it be proper or not, than what they are accustomed to and know already to be proper; and what is strange, they prefer to what is obvious."

The average mind is singularly indulgent to evils of ancient lineage, construing them on the one hand to be ineradicable, or on the other, perchance, to have acquired vested rights. Fortunately The American College of Surgeons has declined thus to view the Fracture Problem and, largely through its fracture committee headed by the skilful Scudder, has made careful study of the matter with submission (chiefly through the bulletins and the annual year books, to which attention is invited) of constructive recommendations and sundry minimal requirements. It is with no perfunctory gesture of Fellowship therein, when the writer states that he views the work and recommendations of Scudder and his associates with high esteem, considers them worthy of thoughtful consideration by the trustees and superintendent of each of our major hospitals, and is gratified that his own independent observations so closely parallel this constructive effort of The College.

The average trustee or the average superintendent may view with apathy, if not frank antagonism, the idea of establishing a Fracture Service with a chief, resident surgeons, nurses, properly equipped operating room and wards, a well furnished shop, and one or more competent mechanics. Such will probably view it as an expensive venture, probably also as a needless venture. Courteous indulgence is accorded this anticipated reaction of the average trustee and the average superintendent; but it is re-

quested that judgment be delayed, and a hasty opinion be not made a final decision.

Expense, as a matter of course, will be involved, exact estimates of which are not available but which may be assumed to exhibit considerable variation, but the constructive value of the proposed policy is of definite importance and wholly independent of the foregoing. An effort has been made to demonstrate that the Fracture Problem is not only an ever-present-and-always-major-problem, but that in addition it touches individual and community alike.

Yet another phase deserves consideration, as follows: the writer finds himself in accord with Scudder, that the older methods of unyielding splints, and only-too-often tightly constricting dressings, with immobilization of joints above and below the point of fracture, must be held obsolete; to be displaced by extension and counter-extension as advocated by Hodgen, Bardenheuer, Jones; the suspension methods of Hodgen and others; the direct bone traction of Codivilla, Steinmann, Ransohoff, Parkhill and Freeman; the modified bone traction of Hey Groves; the operative technique of Lane; massage, so wisely sponsored by Championiere, and Mennell; the interpretive use of the X-ray; the intelligent use of the Carrell-Dakin technique. The foregoing have been developed not specifically because of special availability of suitable environment and facilities, but actually usually in spite of the lack thereof; they bespeak the aggressive genius of men, rather than adequacy of environment and equipment.

But all problems have by no means been solved; and as the hospital is normally the environment in which clinical problems should be studied and solved, attention is directed to what the fracture committee of The College considers worthy of further study; processes of repair, causes of ununited fractures, treatment of ununited fractures, repair of pathologic fractures, proper treatment of crush fractures, treatment of malunited fractures.

VI.

Of what should the proposed Fracture Service consist, and what should be the type of the proposed chief?

The service should not be held narrowly restricted to fractures and dislocations, even though this field be rich in variety and interest. This service (which obviously should include an out-patient service) may very properly take over the diversified traumata that are constantly encountered in our current existence. While it is true, as suggested by Scudder, that the neurologic surgeon will probably continue to lay claim to fractures of skull and spine, the thoracic surgeon to the by products of thorax fractures, the abdominal surgeon to hem-

orrhages and lacerations and ruptures due to fractured ribs and pelvis, the genito-urinary surgeon to the occasional lacerated bladder from a fractured pelvis; yet the chief of the Fracture Service should be master of all these problems, competent to deal with them on his service, and a valued consultant at all times on these varied subjects. The field is thus seen to be very broad and very rich.

Should an orthopedist be the chief?

During the World War the War Department superimposed upon the orthopedists a somewhat surprising load. This should be construed as an emergency measure rather than as a definite future plan. Under the abundant leisure afforded by the current National Defense Policy, it is seriously hoped that the war time surgical load will be so readjusted that the orthopedists will be freed from a responsibility for which, *on the average*, they are not particularly adapted. The reason why the *average* orthopedist should be spared much of war time surgery is the same reason why he should not function as chief in the proposed Fracture Service. This reason, a limited training and experience in general surgery, has been clearly recognized, frankly mentioned, and a forward looking recommendation made in the presidential address of the president of the American Orthopedic Association, 1921, as follows, "A most complete early training in general surgery of all those who would become orthopedic surgeons."

VII.

Not only has The College of Surgeons addressed itself to the Fracture Problem as a whole, and a Fracture Service in particular, it has also made constructive recommendation regarding a minimum standard of equipment, which was formally adopted by the Board of Regents of The College in June 1924: it is as follows:

AMERICAN COLLEGE OF SURGEONS

Minimum Standard Series Number 1

EQUIPMENT FOR FRACTURE SERVICE IN HOSPITALS

After extensive investigation and subsequent study of data received through carefully selected regional subcommittees in all parts of the United States and Canada, the General Committee on Fractures of The American College of Surgeons has submitted the following as a minimum in the treatment of fractures.

- (A) That all general hospitals be equipped to care for fractures; that the minimum equipment for the transportation and emergency treatment of fractures be the following or its equivalent:
 1. Thomas upper extremity splints
 2. Thomas lower extremity splints with traction straps, slings and buckle straps
 3. Hodgen splints
 4. Coaptation splints, assorted sizes
 5. Cabot wire splints

6. Straight pieces of wood (of assorted length, width and thickness) for splints
7. Plaster of Paris bandages
8. Some form of overhead frame for suspension
9. Suitable X-ray apparatus, including a portable machine, if practicable.

(B) That it is highly desirable that one individual surgeon be responsible for the supervision of the care of fractures in each hospital service.

(C) That special record sheets be used for fracture cases.

There would seem to be no legitimate reason why this exceedingly conservative estimate of a minimum standard of method and equipment should not be adopted by all the hospitals (noted *ante*) as the foundation upon which shall be constructed a thoroughly adequate and abundantly equipped Fracture Service.

Standardization is not offered to the profession in order to stimulate routine treatment. It will undoubtedly accomplish this very end with all one-idea-practitioners; but it will produce no such effect on men with actively thinking minds. It is seriously hoped that it will go far in clarifying, simplifying, and stabilizing, the past and present inchoate welter of the general fracture situation.

Strict limitation has been enforced in this notation regarding the protean forms of treatment customarily activated for traumatized bones and joints. But in connection with the foregoing essentials (as approved by the Board of Regents of The College), for a Fracture Service, it should be held a frank dereliction if reference, herewith, were not made to the fascinating, and the far-reaching imperative consequences of, reconstructive problems. Wholly apart from purely surgical procedures, as commonly wrought, cognizance must today be generously accorded to the beneficent ancillary service yielded by physiotherapy. To state that we are yet on the threshold, and visualize with but crepuscular gropings the full reconstructive possibilities of scientific physiotherapy is surely but an *obiter dictum*; and of identical breed the obvious corollary that a properly equipped Physiotherapy Department will demonstrate itself an invaluable essential to a Traumatic Surgical Service.

VIII.

Occasion and place would seem abundantly opportune to warrant mentioning that if simplification and stabilization are desirable in civilian practice, of infinitely greater importance are these during war time, especially so in the Combat Zone of the Theatre of Operations.

The exceedingly interesting and valuable observations by McDill ("Lessons from the Enemy," Medical War Manual, No. 5) antedating our entry into the war, exhibit the thorough and intelligent grasp by the Germans of simplified

methods and equipment in dealing with war injuries.

The very strong drift in the American Army toward this same objective is notably exhibited by Medical War Manual No. 4, "Military Orthopedic Surgery," Medical War Manual No. 7, "Military Surgery of the Zone of the Advance," and the "Manual of Splints and Appliances for the use of the Medical Department of the U. S. Army."

To those who have neither studied medicomilitary problems, nor have undergone the stress of combat service, it may be difficult to comprehend the extreme importance of methods and equipment highly standardized in type and exhibiting the maximum of efficiency in safeguarding the welfare of the wounded.

But the thought is ventured that no one will watch with greater keenness, and no one will welcome with greater cordiality than the Surgeon General of the Army every constructive effort to clarify and stabilize and standardize the existing complexities of the ever present Fracture Problem.

Furthermore it is earnestly believed that the personnel of the Medical Reserve Corps, which is so abundantly represented in the Fellowship of The American College of Surgeons, will follow the counsel of prudence and be guided by the counsel of wisdom, in thus rendering during peace yeoman, patriotic, constructive, and cooperative effort; that while yielding generous fruitage in the routine of each day's work, yet will find its most fragrant meed of recompense when tested on the fields of suffering 'neath the incandescent blasts of the holocaust of war.

3520 Lucas Avenue.

THE LIFE OF SIR WILLIAM OSLER*

WITH PERSONAL RECOLLECTIONS

J. ELLIS JENNINGS, M.D.

ST. LOUIS

I have just been reading Harvey Cushing's "Life of Sir William Osler." We all knew that Dr. Osler was great, but after reading these two fascinating volumes in which Cushing shows us the character of the man and traces in masterly fashion each ascending step of his career we realize at once why Osler was great. During my student days at the University of Pennsylvania Dr. Osler was Clinical Professor of Medicine. I attended his lectures and had the benefit of his bedside instruction. The life of a physician who was born in the wilds of upper Canada and who when he

died occupied the topmost rung on the ladder of fame, must surely have a message for all of us and especially for the younger men who are just beginning their medical career. Drawing largely from Dr. Cushing's biography and adding some of my own recollections, I am going to give you a short sketch of Osler's life and point out the traits which made him preeminent in the art and practice of medicine.

William Osler was born July 12, 1849, in a parsonage at Bond Head near the edge of the wilderness in upper Canada. The salary of his father as a missionary must have been small and with nine children in the family you can realize what a handicap it was to be born under such circumstances. The single redeeming feature was that being one of nine he was taught unselfishness and consideration for others. As a boy he was affectionate, chivalrous, generous, full of fun and excelled in sports. After mastering the rudiments of his education at the local schools, he was sent at the age of 16 to the Weston Academy, presided over by the Rev. W. A. Johnson. Johnson's hobby was the study of biology, and on his frequent expeditions in search of specimens was accompanied by his pupil. He taught Osler to prepare slides and to use the microscope. Here we find the first indication of the unusual student. While his companions were having a good time playing cards and tinkling the banjo, Osler was to be found in the workroom of Father Johnson with his eye glued to a microscope. Johnson had a friend in Toronto, Dr. James Bovell, Professor of Pathology in the Medical Department of Trinity College, who was also fond of biology and spent several days a week at Weston. Dr. Bovell must have been a remarkable man, for he was destined to exert a profound influence on the life of Osler. Probably we owe it to him that Osler gave up the idea of theology and decided to study medicine. In 1867 at the age of 18 he went to Trinity College, having obtained a scholarship at Weston, and the following year began the study of medicine. He had the run of Dr. Bovell's library and assisted him in his work in the pathological laboratory. During the summer of 1870 Osler had determined, probably on the advice of Dr. Bovell, to leave the Toronto school and complete his course at McGill, where he would have the clinical advantages of the Montreal General Hospital.

What sort of a hospital was this to which Osler wanted to go? Evidently it

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was not a class A hospital, for Osler says it was an old coccus and rat ridden building with medical and surgical cases jumbled together in the same wards. But it had two valuable assets for the student, much acute disease, pneumonia, phthisis, sepsis and dysentery—and a group of keen teachers in Howard, Wright, MacCallum and Drake. The students had to serve time as dressers and clerks in the hospital and at night were often pressed into service as nurses. One of his duties was to report the interesting cases to the local medical journal. Osler spent an unusual amount of time in the dissecting room and when the material ran out, caught a rat and continued his investigations. After the close of the college in the spring most of the students went home and got out their fishing tackle. Osler spent the greater part of the summer working in the wards with Dr. MacCallum and in the out-patient clinic with Dr. Howard. His graduation thesis took a special prize which the faculty thought was greatly distinguished for originality and research. After graduation Osler says, "I left the old General Hospital with a good deal of practical experience to my credit and with warm friends among the members of the staff." His whole course so far had stamped Osler as a most exceptional student, well grounded in the essentials of medicine, anatomy, physiology, and pathology. How unusual he was is shown by the fact that all of his professors were anxious to find a place for him as a teacher in the school.

In those days the education of the medical graduate was not thought to be complete without study abroad. Osler borrowed the money and spent two years in Europe, fifteen months of which were devoted to study in the physiological laboratory of Burdon Sanderson, attached to the University College, London. At the hospital across the street Osler had many opportunities to see the work of Jenner, Fox, Bastian and Ringer, and there learned how attractive out-patient teaching could be made. While abroad he gave much thought to his future. He was urged by Dr. Bovell to enter the Indian Medical Service as the best field for fame and fortune. His own inclination was to return to Montreal and practice ophthalmology. There was a splendid opening there, and he thought by taking up a specialty he would have more time to continue research work. While debating the matter he learned that a very good man from the Royal London Ophthalmic Hospital had just located in Montreal.

This changed his plans and he sailed for home with his mind fully made up to practice general medicine. He furnished an office in the lower part of Montreal with a desk, a chair and a book-case. In his account book there is no mention of a chair for a possible patient. As Dr. Osler spent most of his time in the pathological laboratory, if a patient did appear he probably found the door locked. Upon his return to Montreal the faculty of McGill elected him lecturer upon the institutes of medicine. Of this appointment Osler says: "When I returned to Montreal in September, 1874, the professor of the institutes of medicine had to retire on account of heart disease and instead of getting, as I hoped, a position as his demonstrator, the faculty appointed me lecturer with the ghastly task of delivering four systematic lectures a week for the winter session, from which period dates my ingrained hostility to this type of teaching." However, the lectures Osler delivered that winter must have been of a high order, for he had the close attention of every student and at the end of the term was officially appointed professor of medicine. Dr. Osler taught medicine in Montreal for ten years, and it was during that period that McGill reached the height of its fame as a medical school. While teaching medicine Osler always found time to work in the pathological laboratory and the autopsy room. According to Cushing "it is doubtful whether anything more than a great love of the work led Osler to study the material in such detail; he could hardly have realized until his later years that a long apprenticeship in the pathological laboratory always has been and always will be the only way to reach the very top either for surgeon or physician." One summer there was a severe epidemic of smallpox in Montreal and Osler, although not a member of the hospital staff, volunteered to take charge of the smallpox wards. He took advantage of the material at hand for study and wrote a number of papers about the rash, the pustules and the pathological conditions found in smallpox. He was paid six hundred dollars for his summer's work and poor as he was invested this money in 15 microscopes to afford his students the opportunity of becoming practically acquainted with the use of the microscope in the study of histology and pathology.

The scene now shifts to the University of Pennsylvania at Philadelphia. This university was founded by Benjamin Franklin in 1765 and boasted of a long line of famous teachers,

Morgan, Shippen, Benjamin Rush, Wistar, Wood, Physick and Horner. It was regarded as the leading medical school in America. The faculty consisted of D. Hayes Agnew and John Ashhurst in surgery, Alfred Stille and William Pepper in medicine, Joseph Leidy in anatomy, Weir Mitchell and Mills in nervous diseases, H. C. Wood in therapeutics, Goodell in gynecology, Wormley in chemistry, and Tyson in pathology. In May, 1884, it became known that Alfred Stille after 20 years of service would retire from the senior chair of medicine and that Wm. Pepper would obviously be his successor. For Pepper's chair of clinical medicine there was an active canvass among several men who had served long and well in junior positions and deserved advancement. Just as the appointment was about decided upon, the name of Wm. Osler was mentioned as one eminently qualified to fill with marked ability the duties of the chair. A point to be noted is that not a member of the faculty knew Osler personally, only by reputation and by his writings. At the time Osler was in Europe working in Cohnheim's laboratory in Leipzig. As soon as his name was mentioned, "Dr. H. C. Wood boarded the night train for Montreal to make inquiries regarding the local feeling about Osler. He went first of all, curiously enough, to the French hospitals and found that among the French physicians every one spoke of him in the highest terms; he then visited the Montreal General Hospital where he encountered such a degree of enthusiasm for Osler on the part of the young members of the house staff that he became himself a thorough convert and returned home without interviewing any of Osler's colleagues on the faculty." When Osler received a letter asking if he would be a candidate for the chair of clinical medicine in the University of Pennsylvania he thought some one in Montreal was engaging in a practical joke. After thinking the matter over for several weeks, he flipped a coin, heads, Philadelphia; tails, Montreal. It came up heads. Dr. Weir Mitchell was in London at the time and telegraphed Osler to meet him. "At dinner Dr. Mitchell said there was only one way in which the breeding of a man suitable for such a position in such a city as Philadelphia could be tested; give him cherry pie and see how he disposes of the stones." Dr. Osler says, "I had read of that trick before and disposed of them gently in my spoon—and got the chair." His friends in Montreal were stunned at the

thought of losing him. Dr. Palmer Howard wrote, "We have for years felt your vitalizing influence analogous to that of a potent ferment." At the age of 35 William Osler came to Philadelphia to occupy the chair of clinical medicine at the University. The indignation aroused by the appointment of an outsider to this important position soon subsided under the charming personality of the new man.

Osler's advent as a teacher was a distinct disappointment to the students because they compared him with Dr. Pepper whom they idolized. Dr. William Pepper was about ten years older than Osler and at the height of his career. He was a man of brilliant attainments and the leading internist of Philadelphia. He was provost of the university and under his able direction had taken the lead in elevating the standards of medicine. Dr. Pepper had great charm of manner, dressed in the height of fashion, was a social favorite, and had a very large consulting practice. When due for a lecture he would dash up to the door in his high dog-cart, smile and bow as he came into the amphitheatre, and then proceed to deliver a brilliant lecture which held the entire class in close attention to the end. Dr. Osler, spare of frame, swarthy of complexion, drooping moustache, tweed suit and red necktie, would drop off the street-car with an arm full of books and papers and carrying a small black bag containing his lunch. He sauntered quietly into the amphitheatre, probably sat on the edge of a table with one leg swinging, and talked in an informal and rather hesitating manner about the disease under consideration. His very simplicity and lack of oratorical powers deceived us. But as soon as the ward classes were organized for bedside instruction, the students realized they were in the presence of a great teacher. Dr. Pepper was so busy with his consulting practice and duties as provost that he was rarely seen in the hospital except at his lecture hours. Osler did not wish a family practice and as at this period he was not in demand as a consultant, he was able to devote his entire time to teaching. One of the first things Osler did was to rig up a small laboratory in the basement of the hospital and put the senior students to work cutting and mounting pathological specimens. In this work he was ably assisted by Dr. George Dock, whom many of you know. A short distance south of the University was situated the old Blockley Hospital formerly the Philadelphia almshouse, an enormous institution of 2,000

beds. Here was to be found an extraordinary variety of acute and chronic cases, an ideal place for Osler who found the facilities for teaching rather limited at the University hospital. Within the grounds of Blockley was a small brick building used for autopsy purposes which drew Osler like a loadstone. Dr. Henry Formad, the very able pathologist at Blockley, was also the coroner of Philadelphia, and too busy to make every autopsy at Blockley. At these times Dr. Osler would appear accompanied by a group of students and proffer his services. Dr. Sharpless, a Blockley intern of the time, gave Dr. Cushing the following account of Osler: "I have most distinct recollections of the Sundays when he came early in the morning and spent the whole day in making necropsies, which we saved for him so far as possible to do so. I have known him to begin at eight in the morning and continue at this work until evening. He would hunt for hours to find the small artery concerned in a pulmonary hemorrhage or the still smaller one whose rupture produced a hemiplegia.

If he found something especially interesting he would send out the runner to get all the boys and show what a wonderful thing he had and how interesting and instructive it was. Once in the ward class there was a big colored man whom he demonstrated as showing all the classical symptoms of croupous pneumonia. The man came to autopsy later. He had no pneumonia, but a chest full of fluid. Dr. Osler seemed delighted, sent especially for those in his ward classes, showed them what a mistake he had made, how it might have been avoided and how careful they should be not to repeat it. In thirty years of practice since that time, whenever I have been called upon to decide between these two conditions I remember that case." As soon as Dr. Osler was appointed to the staff of Blockley (1885) he did most of his teaching there and was able to carry out his ideas of bedside instruction according to the best English tradition. When the class appeared each student would be given a patient to examine and a case report to fill out. After a time Dr. Osler would look over the notes and point out any mistakes. It was a privilege to stand at the bedside and watch Dr. Osler examine a patient and listen to his remarks about symptoms, diagnosis and pathology. He believed in the self-limitation of disease and when he came to speak of treatment was liable to rub his ear and say, "I don't think drugs will be of any use in this case; we will try diet and good nursing." In speaking of the prognosis in two

cases of pneumonia he said, "I think this man will get well, but the fellow over there has been such a devotee of Bacchus and Venus that I doubt he has the stamina to pull through." To Osler belongs the credit of perfecting and introducing the binaural stethoscope, although he was careful not to have his name attached to it. One remarkable trait of Osler was his capacity to do an enormous amount of work without appearing to be in a hurry. There was no evidence of high pressure or strain. On the contrary, he was deliberate in his movements and speech, never impatient, and in conversation gave you his full attention. Busy as he was, there was no let up in what he termed his "ink-pot" career. One winter, besides writing three Cartwright lectures and six or eight important clinical and pathological papers, he wrote several chapters on diseases of the heart and blood for Pepper's System of Medicine. He also wrote endless editorials and book reviews for the *Medical News* and the *American Journal of Medical Sciences*, and even found time to hold clinics and write papers about diseases of children at the Orthopedic Hospital. The secret of this enormous output was no idle moment during his working hours. At dinner he was surrounded by papers and books which he read while he ate. The evenings were spent in the library of the club or at the College of Physicians and Surgeons. Osler was a great believer in medical societies, and was a member of a great many in this country and abroad. In speaking of the value of medical societies he said: "They serve to foster professional unity and friendship, and serve as a clearing house in which every physician of the district should receive his rating and learn his professional assets and liabilities."

Let us now turn our attention to the Johns Hopkins Hospital. In 1873, Johns Hopkins, a merchant of Baltimore, died leaving in the hands of trustees \$7,000,000 to found a university and a hospital. It was wisely decided not to touch the principal but to use only the income in constructing the buildings. Daniel Coit Gilman, President of the University of California, was selected to head the new university and John S. Billings, Surgeon General U. S. A., was appointed medical adviser, to plan and build the hospital. The hospital, of the pavilion type, was placed in spacious grounds on the eastern edge of the city and was 12 years in building. President Gilman knew that the fame of a university depended upon its teachers, and a wide

search was made to secure the best talent. The first men appointed to the medical faculty were Ira Remsen in chemistry, Newell Martin in biology and William H. Welch in pathology. One morning in the spring of 1888 Dr. Billings came to Osler's rooms, and without sitting down asked him abruptly, "Will you take charge of the medical department of the Johns Hopkins Hospital?" Without a moment's hesitation Dr. Osler answered "Yes." "See Welch about the details, we are to open very soon. I am very busy to-day; good morning," and Billings was off having been in Osler's room not more than a couple of minutes. The departure of Dr. Osler from Philadelphia was a great loss to the university. Dr. W. W. Keen, the distinguished surgeon, said of Osler, "wherever he went the wheels began to go round, things began to be done and all for the good of the profession and the community. He was a fount of inspiration. His personal influence extended more widely and to better purpose than that of almost any one I have ever known. Weir Mitchell and William Pepper were of the same type and when this powerful triumvirate were gathered in Philadelphia they had no rival the country or possibly the world over."

The Johns Hopkins Hospital opened May 6, 1889, with a brilliant staff of comparatively young men; Osler 40, Welch 39, Halstead 37, Hurd 36, and Howard Kelly only 31. The medical school was not opened until 1893 owing to financial difficulties. This gave Osler time to organize the clinics, start a training school for nurses and select a staff of interns who were to serve for long terms instead of only one year as is the general custom. The "potent ferment" began to work and Osler organized the Journal Club, the Historical Club and helped start the Johns Hopkins Bulletin which was established to bring the activities of the hospital group before the medical world. As soon as the hospital was in smooth running order, Osler had a little more time on his hands which he devoted to writing his famous textbook on the practice of medicine. It was completed in one year and appeared in the spring of 1892. To write a textbook on medicine of over one thousand pages in such a short time was a marvelous piece of work. He was probably spurred on by the fact that a certain lady said, "Let us postpone our marriage until you finish the book." Dr. Cushing says, "Osler was a rapid, methodical reader with an exceptionally retentive mem-

ory, but in addition he had formed the habit of jotting down the gist of what he had read so that it could be drawn on when needed. Owing to his editorial writing on new and important subjects his ideas came to be so well formulated and his information so exact in many directions that when he composed his medical masterpiece it was done throughout with such a sureness of touch and with his facts in such readable form that it immediately superseded all other textbooks of general medicine." Some criticism of the sections on treatment was aroused because Osler did not recommend a half dozen remedies for each disease. Osler used drugs scientifically and where a specific form of treatment was known it was mentioned; otherwise he suggested giving Nature a chance aided by nursing and hygiene. If all physicians would follow Osler's plan of treatment our offices would not be flooded with countless bottles of useless medicines. The first edition of Osler's *Practice of Medicine* was sold out in a few weeks, and of the first and second edition 45,000 copies were sold. The work is now in its 10th edition, and since Osler's death has been edited by Thomas McCrae, a former assistant at Hopkins. Appleton & Co., the publishers, have just written me that up to date 300,000 copies have been sold. The first edition published in 1892 sells at a premium as it is being sought by collectors. Any of you who may happen to have a copy of the 1892 edition have a rare treasure. Perhaps some of you are not aware of the fact that Osler's book was largely responsible for the Rockefeller Institute of Medical Research. It seems that a layman, a member of John D. Rockefeller's philanthropic staff was passing the summer in the Catskills and bought a copy of Osler's "Practice." He read the whole book without skipping a page and said "it is one of the very few scientific books that are possessed of high literary quality. There was a fascination about the style itself that led me on, and having once started, I found a hook in my nose that pulled me from page to page, and chapter to chapter, until the whole book of about a thousand large and closely printed pages brought me to the end." When this layman got behind the scene he was astonished to find the foremost practitioner of his day frankly admitting ignorance as to the cause of many of the most common diseases a majority of which were thought to be due to germs, but these had not been isolated nor had a specific cure been found. He explained the

situation to Mr. Rockefeller, and pointed out the great need of an institution in which well qualified men on salary could give themselves to uninterrupted study and investigation of disease. After consulting eminent specialists as to the feasibility of the project the Rockefeller Institute of Medical Research came into being.

May 7, 1892, Dr. Osler took a morning train to Philadelphia and was quietly married to the widow of Dr. Samuel W. Gross, son of the famous surgeon. After a honeymoon spent in Europe they returned to Baltimore and lived at No. 1 West Franklin Street. They always had extra rooms for visiting friends and rarely sat down to dinner without one or more guests present. Dec. 28, 1895, his son Revere was born, and for the remainder of Osler's life his boy was the source of his greatest happiness and whose loss was his greatest sorrow.

As soon as the Hopkins Medical School started Osler outlined the course and organized the students into sections for bedside instruction. From this time on his extraordinary talents had full play. As Cushing points out, "his success lay far less in his thorough familiarity with his subject than it did in his knowledge of young men. This enabled him to impart something of what he knew in such fashion as inevitably to spur students to take advantage of their opportunities." It was at this period that the star of Johns Hopkins soared to the zenith. At first there was considerable hostility to the Hopkins institution among the local profession, but largely through Osler's personal charm and friendliness this feeling was overcome. He organized the entire profession of Baltimore in a campaign to fight the deplorable sanitary condition of the city, a hotbed of typhoid fever. From time to time Osler received calls from other Universities—Jefferson, McGill, Harvard, Edinburgh, and when Dr. Pepper died, the University of Pennsylvania was anxious to have him return. He declined all these offers, but when in 1904 England called him to be Regius Professor of Medicine at Oxford, he accepted. When Osler left Baltimore the Johns Hopkins took a great flop, for as Weir Mitchell said to Osler, "perhaps you do not know that the medical school at Johns Hopkins is or was William Osler." Why did he go? He says, "I am on the down grade; the pace of the last three winters has been such that I knew that I was riding for a fall. The daily grind of consulting practice was growing worse from year to year." In other words Osler was

tired and longed for the comparative quiet of Oxford where he could browse among books and have time for his literary work. When he gave his valedictory address at Hopkins, "McCoy Hall was packed to the window-sills with students, alumni, faculty and devoted friends and every heart was filled with affection and regret. Osler was greatly affected and in order to relieve a situation of singular sadness in parting, he spoke of the danger of staying too long in one place and the beneficial effect upon faculties of changes in personnel. If he read history aright, the effecting, moving, vitalizing work of the world is done between the ages of 25 and 40. Every advance of the first rank in medicine was made by comparatively young men, Vesalius, Harvey, Hunter, Bichat, Laennec, Virchow, Lester, Koch. He was consequently of the opinion that men above sixty were of little use in the world and as a matter of fact, often got it into a lot trouble. He referred to Anthony Trollope's novel, 'The Fixed Period,' which gives an account of the ancient custom of throwing the old men over a cliff and jokingly suggested an extension of this plan with a peaceful departure by chloroform. The reporters present saw an opportunity to make a sensation and printed in scare heads 'Osler recommends chloroform at sixty.' Osler was fond of practical jokes and occasionally put one over on the press but on this occasion they paid him back in full measure. A storm of protest, abuse and talk of shotgun swept the country and 'Oslerize' became a by-word of mirth and approbrium." The kindly Osler took his medicine and said nothing. In 1905, at the age of 55 Osler sailed for England to be Regius Professor of Medicine at Oxford, the most exalted position his mother-country had to bestow. From a monetary standpoint it was a great sacrifice as the salary was only two thousand dollars a year. Osler was able to accept it because he had a comfortable competency from the sale of his book.

In a short paper it will not be possible to follow Osler overseas and give a detailed account of his life there. When he left Baltimore his lifework was done. For the next nine years Osler led a quiet, happy life, going fishing with his boy, delivering lectures, attending the meetings of various medical societies, revising his textbook and teaching in the hospital. His hobby was collecting rare books and he often ran down to London to attend sales and rummage in the second-hand book shops of Charing

Cross Road. Though supposed to be resting you may be sure he was never idle and you may be sure also that his engaging personality won the love and admiration of all those with whom he came in contact. His home at Oxford was the Mecca to which many pilgrims from America were drawn. At the Coronation of King George in 1911 Osler was made a Baronet which he thought might please his friends in Canada. Then suddenly this peace, this happiness was shattered by the outbreak of the Great War. Osler was appointed Honorary Colonel of the Oxfordshire Regiment and consulting physician to various hospitals. Realizing that microbes kill more soldiers than the bullet, he began a campaign of education and urged the vital necessity of having every recruit vaccinated against typhoid. His son Revere was fighting in France with the British Artillery; and his Battery was in the thick of the great battle of the Somme. Aug. 29, 1917, while preparing to move up the Battery near Hindenburg Farm, a shell exploded in their very midst and Lieut. Osler was killed. The death of his only son broke Osler's heart. Outwardly he appeared to be much the same, but when two years later he caught influenza he did not have strength enough to throw it off. He died Dec. 29, 1919, aged 70, and lies buried at Oxford. "The world mourned one of the most greatly beloved physicians of all time."

In summing up the life of this truly great man, we find first of all the keen research worker, the teacher. He refused general practice because it interfered with this work. He welcomed consultations as it increased his income and enabled him to place his great knowledge and experience at the services of the family physician. But the most remarkable quality Osler had was his personality, his genius for friendship. Perhaps the best way I can describe Osler is to liken him to Abou Ben Adhem, who when he saw an angel writing in a book of gold said, "write me as one that loves his fellow-men."

In conclusion, I wish every student and young medical man would read Cushing's intensely interesting "Life of William Osler." It contains an inspiring message which if heeded would carry him far. Osler modestly says he started out with just an ordinary stock of brains. If that be true, he transformed them by constant use into a brain of extraordinary quality. His message to the student is, "Do the day's work that is before you just as faithfully and honestly and energetically as is in your

power." Fortunately, the two great medical schools of St. Louis are equipped to give any man a well rounded education in medicine, probably affording better opportunities than Osler had. They have the microscopes, the dissecting rooms, the pathological laboratories, the post-mortem tables and the bedside instruction. The only thing the student must provide is what Osler calls the "sacred hunger" for knowledge.

Carleton Building.

POSTURE*

ARCHER O'REILLY, M.D.

ST. LOUIS

"To stand erect, to walk or move easily, to have the various parts of the body so perfectly adjusted that easy balance and graceful use must result, is to be desired for reasons of far greater importance than the esthetic. Such elements are of absolute importance for perfect health and the fullest economic efficiency, since use of the body in proper poise insures the least friction with, consequently, the greatest amount of energy available for whatever may be required of the individual."¹ This statement is taken from a paper by Goldthwait published in 1909.

The importance of good posture and the necessity of developing it in youth and adolescence by correcting postural defects and removing their cause where possible is, I think, of much more importance than when Goldthwait made the above statement.

For the last few years young people and especially young women, have developed habits of posture which will unless corrected cause serious discomfort in later years. It is a fashionable pose at present and, so, hard to correct.

Posture and postural defects are not exclusively orthopedic problems but are of vital interest to every physician. We should all train ourselves to recognize errors in posture so that correction of the deformity can be begun before it has reached a serious stage.

Let us first take up the normal posture. "In the upright position, the attitude in which there is the least strain, and consequently the correct attitude, is with the body made as tall as possible without rising on the toes. (Fig. 1.) In this position the head is erect, the chest is high, the abdomen is flat and the spinal curves are slightly convex backward in the dorsal region and convex forward in the lumbar region. The axis of the pelvis is about 60

*Read before the 9th Councilor District Meeting, Columbia, November 4, 1926.



Fig. 1. Correct posture showing vertical line test.

degrees from the horizontal. In this position the anterior portion of the sacrum, together with the last lumbar vertebra, is almost directly over the great trochanter. In this position the Y ligament is made tense as well as the iliopsoas muscle, these two structures serving to prevent the pelvis from lessening its forward inclination. In this position the hamstring muscles are tight, giving support to the knees as well as preventing a forward inclination of the pelvis. The knees are straight and the weight is received at the foot upon the astragalus, with the posterior calf muscles tight, so that the heel rests lightly and the chief strain is thrown upon the ball of the feet. The posterior calf muscles are tense, the result being that the posterior tibial and the peroneus longus by their contraction hold the tarsal bones in place, the foot thus being in the position of greatest strength, while the flexor muscles of the toes hold them in contact with the floor, giving a stable base."² All the muscles are in balance and the least amount of nervous and muscular energy is needed to keep the body in the upright position.

The importance of correct posture cannot be overestimated in its relation to the position and function of the organs. The chest is raised allowing proper expansion of the lungs

and free action of the heart. The anterior curve of the normal lumbar spine, aided by the psoas muscle and the retroperitoneal fat, forms a shelf which supports the kidneys and the other abdominal viscera; and, more important, it tends to separate the abdomen from the pelvis and to protect the pelvic viscera from the pressure of the abdominal organs. The significance of this will be taken up later. (Fig. 2.)

Correct posture includes not only the position assumed in standing and walking but also in sitting. Correct sitting is particularly important in childhood and adolescence. Unless the sitting posture is correct many and serious developmental defects may result. A correct habit of posture learned at school will tend to persist in later life.

In sitting (Fig. 3) the buttocks should be pushed back in the seat as far as possible; this will allow the body to be held erect and supported by the lack of the seat. This position places the pelvis in its natural relation to the spine so that the latter is not forced into unnatural curves. The feet should be flat on the floor. When reading, the book should be held so that the child does not have to bend forward and drop the head.

A good sitting position at school is facilitated by properly fitting desks and chairs. Lovett gives the following theoretical requirements for an acceptable desk:

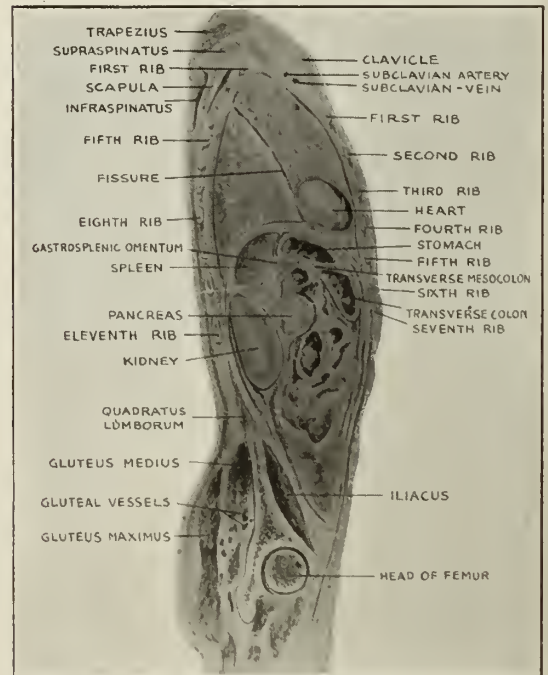


Fig. 2. Cross section of body showing lumbar shelf. (From Applied Anatomy, G. G. Davis.)

"(1) The height of the seat from the floor should be such that in sitting the feet rest on the floor. Too high a seat causes pressure on the back of the thighs; too low a seat induces flexion of the lumbar spine.

"(2) The slope of the seat should be backward and downward about $\frac{3}{8}$ of an inch. The depth of the seat should be about two thirds the length of the thighs. The width of the seat should be that of the buttocks.

"(3) The back of the seat should have a slope backward of one in twelve from the vertical line.

"(4) The height of the desk should be such that the back edge allows the forearm to rest on it naturally with the elbow at the side.

"(5) The slope of the desk is usually an inclination of 10 to 15 degrees. The proper distance of the eyes from the desk is from 12 to 14 inches."³

I shall not discuss the types of desks, except to say that the best desks are of little value unless they are adjusted to the occupants.

A simple and easy method of determining good or bad posture may be made by the vertical line test. A line is dropped from the front of the ear to the ball of the foot. In practice this may be a rod or a window pole. In good posture it will be seen that the long axis of the head and the neck taken together and the long axis of the trunk make a vertical line and that the straight line is parallel to these segments of the body, and that the weight is perfectly balanced in relation to the feet. In poor posture the axes of these segments of the body, instead of forming a straight line, are broken into two or three zig-zag lines.

Faulty posture may be classed roughly into five types: (1) Posture of fatigue. (2) Round shoulders. (3) Hollow back. (4) Flat back. (5) Scoliosis.

(1) The fatigue posture (Fig. 4) is probably the least serious because it is assumed by



Fig. 4. Posture of fatigue. Same as Fig. 1. The child was told to stand as if she were tired. This clearly shows the difference between the two postures.

nearly every one at times. It is important however because it may, if uncorrected, become the normal posture and may progressively develop into the other types. In this posture there is a general relaxation of the body. The head droops forward, there is an increase in the lumbar curve and the knees are bent. The normal vertical line is broken into at least three distinct lines. The posture itself shows a lack of alertness and efficiency.

(2) Round shoulder (Fig. 5) is probably the most common of the postural defects. It is usually associated with the other types to a greater or less degree. As the name implies the shoulders are thrown forward, the normal backward curve of the spine is increased. The chest is flattened and the pectoral muscles are shortened. The scapulae are prominent. The backward curve may include the entire spine giving the rounded back or it may be confined to the dorsal region with a compensatory increase in the normal lumbar curve, resulting in the round hollow back. There may also be a relaxation of the abdominal muscles, with the pendulous abdomen. In many cases this is a posture of fatigue which has become fixed and exaggerated.

In the early and less severe types the pos-



Fig. 3. Correct postures at desk; Sebring chair. (From Orthopedic Surgery. H. L. Taylor.)



Fig. 5. Round shoulders.

ture can be corrected by muscular effort, but in the advanced cases the muscles and ligaments have become shortened and voluntary correction is impossible. Children with this deformity are visibly below normal and in most cases are underdeveloped and weak.

In round shoulders the chest is flattened and contracted and the normal function of the lungs is impeded. The heart, liver, stomach and the other organs are crowded and their functions hindered. General vitality is lowered



Fig. 6. Hollow back.

and the tendency to lung disease is markedly increased.

Round shoulders are due to (a) improper standing, in other words an exaggerated fatigue posture; (b) to bad positions assumed while sitting and reading, and also (c) to occupation.

(3) The hollow back sway back (Fig. 6) is a position of weakness. It is usually associated with round shoulders but may exist independently. It is due to weakness of the abdominal muscles, or possibly to too great an inclination of the pelvis. It is a posture of weakness and a lessening of the supporting power of the spine. It is especially important



Fig. 7. Flat back.

at the present time because it is a posture assumed by many young girls and women. The shoulders are thrown back, the abdomen is protruded and when standing one knee is usually flexed tilting the pelvis and giving the spine a lateral deviation. In the young and more or less athletic type of girl this does not as a rule produce any marked discomfort or ill effect other than an ungainly and rather ugly appearance. Should this habit persist and the posture become fixed it will result in back aches and various abdominal and pelvic complications. There will also be a loss of general efficiency.

(4) The flat back type (Fig. 7) is a flattening or obliteration of the normal lumbar curve. The chest is flattened. The abdominal muscles are relaxed and, most important, the nor-

mal tilt of the pelvis is lessened and in severe cases it may approach the horizontal.

As a result of the flattening of the back the natural shelf caused by the prominence of the fourth and fifth lumbar vertebrae disappears and the normal support to the abdominal organs is removed. (Fig. 8) This, with the accompanying relaxation of the abdominal wall, permits a dropping and displacement of the abdominal viscera. These sag into the pelvis and press upon the pelvic organs eventually causing disturbances in these organs. Lovett says that children with flat back tend to develop scoliosis. Flat back is due to bad habits in sitting with a general laxness of the ligaments.

(5) Scoliosis, or lateral curvature of the spine, is by far the most serious of the postural defects. Scoliosis may be divided into two classes, the postural or functional and the structural.

Postural scoliosis (Fig. 9), as the name implies, is the result of faulty posture. The normal spine tends to maintain a vertical position with the head in the midline. If for any reason it is thrown out of the perpendicular a compensatory curve results which tends to bring the head back into the normal position. A simple cause of this deviation might be a tilting of the pelvis due to an inequality of the legs. If the inequality is corrected the curve will disappear. The postural curve is a total curve running from the sacrum to the head. There are many causes of postural scoliosis among which may be mentioned, shortness of one leg, the habit of standing with one leg flexed, weak musculature, defects in eyesight and hearing, the habit of always carrying books and heavy loads on one side and, particularly, faulty habits in sitting.

In postural scoliosis one hip is more prominent and the shoulder on the concave side is lower. A low shoulder is always very suggestive of lateral curvature. Postural scoliosis can usually be fairly easily corrected by gymnastic work and by removing the cause. It is a very important postural defect, however, because it may at any time develop into the structural form.

Structural scoliosis (Fig. 10) is probably the most serious and difficult problem in orthopedic surgery. So far correction and cure of the severe cases have been almost impossible. The deformity is great and the effects on the health and the efficiency of the individual most marked.

In structural scoliosis the lateral deviation of the spine is accompanied by structural changes in the shape of the vertebrae and the ribs. The curve is no longer total but con-

sists of two or more sharp curves. The bodies of the vertebrae become wedge-shaped to conform to these curves, and at the same time rotate from the midline toward the convexity of the curve. In the dorsal region the ribs rotate and are carried backward with the vertebrae on one side and forward on the other causing a prominence on one side. (Fig. 11) The trunk is displaced laterally, the hip on the convex side of the lumbar curve is prominent, the shoulder is low.

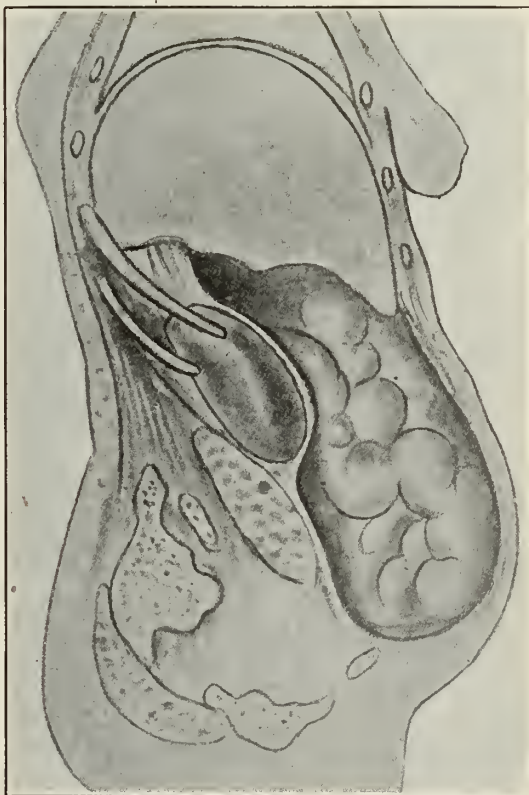


Fig. 8. Enteroptosis as a result of flattening of the back and relaxation of the abdominal muscles. (From *Gynecology*, Graves.)

In the severe grades of structural scoliosis the trunk is shortened and the ribs are flattened on one side. (Fig. 12) The result is that the lungs are crowded and the respiration interfered with. Pulmonary disease is not at all uncommon. The heart may be displaced and the position and function of the abdominal viscera may be markedly disturbed.

All the postural defects are most important because they lessen the efficiency of the individual and if allowed to continue may ultimately result in serious impairment of health and function. Among these may be mentioned lessened respiratory efficiency, pulmonary tuberculosis, impairment of digestion, prolapse of the ab-

dominal viscera, pressure upon and derangement of the pelvic organs.

Treatment of postural defects should be in the main preventive. It is much easier to de-

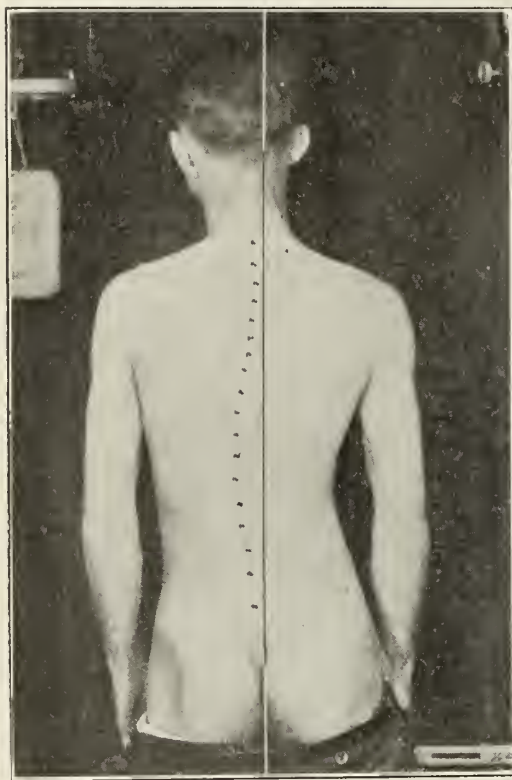


Fig. 9. Postural scoliosis.

tect faulty posture in the beginning and correct it than it is to cure it after a bad habit has developed, especially when structural changes have taken place. In the majority of cases they will yield to suitable postural exercises and training and to constant vigilance to see that improper attitudes are not assumed and maintained.

I should like, also, to stress the importance of good hygiene, especially in school children. Many children, especially girls, become interested in the studies; they like to read. Instead of getting out of doors and indulging in healthful exercise they sit around the house in bad postures and as a result acquire mechanical deformities. These are usually of the weak anemic type who should be made to get out and take regular exercise and have good food and plenty of exercise.

In adults and in some children a support of some sort may have to be worn in order to hold the correct posture until the patient and the muscles can be trained to assume and maintain the posture without external aid. In children this

may be a simple back brace. In adults some form of abdominal support may be necessary. In men this may be an abdominal belt of canvas, and in women a good front lace corset. I do not believe that elastic belts or corsets with elastic are of value as they do not give sufficient support. The corset or belt should be applied with the patient lying on the back. The abdomen is then flattened, the abdominal viscera fall back into place and when the patient assumes the vertical position they are held in place by the corset. Apparatus should be as simple as possible and should not be used any longer than is necessary.

The essential of treatment is physical training. The exercises must be done daily and must be supervised by a competent person. This is most important, because if left to themselves patients get careless, the exercises are done in a faulty manner and in a great many cases the desired correction is not secured.

I wish to add a word of caution about scoliosis. Exercises alone will not correct postural scoliosis unless the cause has been found and removed. In structural scoliosis exercise will only tend to increase the deformity. Exercises tend to make the spine more flexible,

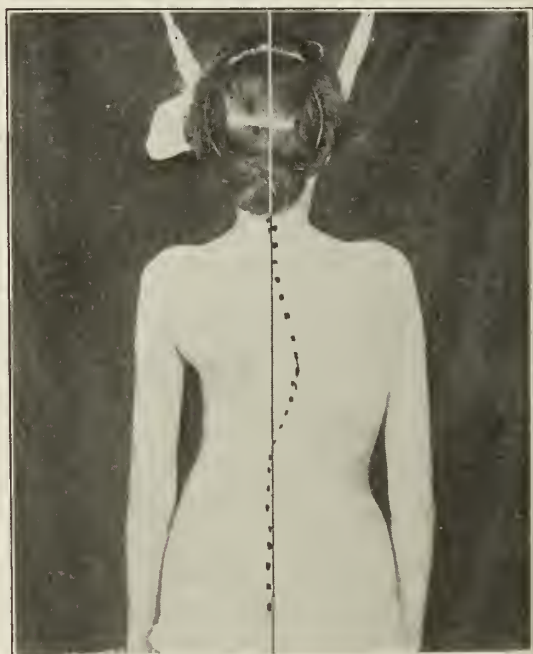


Fig. 10. Structural scoliosis.

so placed that they tend to increase rather than the strengthened muscles are mechanically than to decrease the deformity. In our experience braces are useless and the only method of correction is by the use of plaster jackets.

As I have already said, if the deformity is marked, improvement may result but a cure is almost impossible.

Again let me emphasize the importance of prevention and early detection of these deformities.

Prevention can be secured by proper postural drills and by careful supervision so that children do not assume improper attitudes either while standing or sitting at school and by instruction so that they will avoid these errors at home. They must also have sufficient play out of doors to keep their muscles and general health in good condition.

Prevention is impossible however in all cases, and then early detection is most important, especially in scoliosis. For this a thorough physical examination of all children is essential. I believe that this should be made at least once and preferably twice a year. They should be stripped to the waist, their posture noted, and especially the shape of the spine. Every case of scoliosis should receive prompt treatment, no matter how slight the deviation.

I believe that it is our duty as physicians to take posture and postural defects seriously. In the final analysis we are responsible for the health of the community. I have tried to show some of the defects of posture and their importance. Their prevention and correction will mean an increase in the vigor of the com-



Fig. 11. Structural scoliosis. Same as Fig. 10 showing rotation.

munity, both physically and mentally. This can be accomplished by the physician, especially the family physician, who should have a keen eye for postural defects. He should urge a careful physical examination at least

once a year, and above all should educate parents to demand this examination in school children. We must commence with the children because "as the twig is bent so the tree will grow."

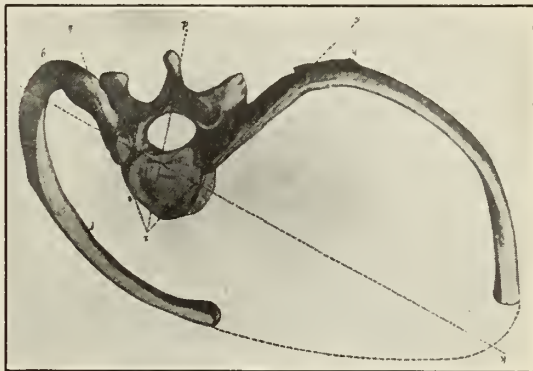


Fig. 12. Deformity of ribs and vertebra in marked rotation. (From *Curvature of the Spine and Round Shoulders*. R. W. Lovett.)

The importance of this can best be illustrated by quoting again from Goldthwait.

"It is our great function as physicians to show in every way possible how the human organism is to conserve this energy so that when expended it shall yield to the world the largest possible return. If used rightly the physical functions will be more perfectly performed, the mental powers will be greater and the spirit of the individual must be finer if expressed through a body properly formed and used. It has caused no surprise to find Washington and Lincoln poised so that there could be no waste from the improper use of the physical frames with which they were endowed.

"It is our duty, however, to recognize that the types, which have been depicted as departures from the best, have in them the potential of the finest and that we can have no higher function than that of making it possible for some of these poor creatures to so live that they or their children may approach more nearly to the standard that it should be the aim of every human being to reach, which, when reached, must mean a high degree of efficiency of all the elements of the body, the physical, the mental and the spiritual."¹

3534 Washington Blvd.

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MASTOID DISEASE*

W. D. BLACK, M.D.

ST. LOUIS

While you have heard many papers on mastoid disease and its complications I am sure you must feel as I do in that, regardless of the vast amount of literature on the subject, one can never fully master its ever changing symptomatology and pathology. I have had years of experience in this field and one would naturally think that with such a small part of the anatomy one could easily be a master, but such is not the case for frequently even with all our new aids in diagnosis, we are still in doubt in some cases as to the exact pathological condition.

My reasons for addressing you today on this subject are that this year I have seen more irregular types of mastoiditis than any year in the past, and they were not all from the same type of infection. Unfortunately, in several cases the laboratory report was lost or not reported, but regardless of the type of infection the clinical signs were so different that without careful observation and the aid of the laboratory I would not have been able to present some of these case histories.

Scarlet fever and gripe were responsible for most of them and one would naturally expect a uniform type but this year such was not found. Several cases failed to present the classic symptoms, such as redness, edema and tenderness behind the auricle. A few had tenderness over the site of the mastoid antrum as the only sign. One case had a practically normal tympanic membrane without a history of an aural discharge. Another had an apparently normal tympanic membrane with a previous history of middle ear suppuration. A few cases had an abundance of discharge whereas in the usual case we have a cessation of the discharge.

You will see from the case histories that you should always suspect the mastoid when you have general symptoms plus an aural discharge, even though your classical mastoid symptoms are lacking. There are two symptoms or signs which are more apt to be present than any of the others, namely, (1) tenderness on pressure over the site of the mastoid antrum, and (2) sagging of the posterior superior canal wall.

The X-ray is probably more reliable for diagnosis when interpreted by a good roentgenologist than are your classical signs but, of course, one would naturally hesitate to

open a mastoid from a picture alone without one or two fairly constant symptoms being present. Early diagnosis here is exceedingly important, because from my experience of many cases of mastoid with intracranial complications 90 per cent. could have been avoided by an early diagnosis and early operation.

REPORTS OF CASES

Case 1. Mary F., age 6 years, referred by family physician.

History. January 3, 1925, patient developed a cold and follicular tonsillitis. Two days later, developed an earache in the left ear and tympanic membrane perforated in a short time, followed by a discharge of pus. As the left ear improved the right ear became involved, which followed the same course with both discharging. After three weeks the right ear stopped discharging and got well. After four weeks from the onset of the discharge from left ear, the discharge ceased and a day or two later the postauricular tissues began to swell, being quite high over upper part of mastoid and temporal bone. Swelling was similar to that found in subperiosteal abscess from furuncles in the canal but with the history I was satisfied we were dealing with an acute mastoid.

Examination. Edema and some fluctuation over upper part of the mastoid and squama of the left temporal bone. Canal walls did not show furuncles. Tympanic membrane showed no perforation or discharge and approaching the normal color. There was tenderness on pressure over mastoid antrum.

Diagnosis. Acute mastoiditis.

Operation. Usual incision made. Great amount of edematous tissue encountered at upper part. After incising through the periosteum a large amount of thick, yellow pus was evacuated. After thorough cleansing could not find any fistulous tract, even as far forward as the root of the zygoma. Made the usual opening into the mastoid antrum which was rather high, as is generally the case in young children. The mastoid process was diploic and no cells fully developed (diploic mastoid). The lateral sinus was situated farther anterior than normally and was only one fourth of an inch from the posterior wall of the external auditory canal. The sinus wall looked healthy and as there were no symptoms pointing to a thrombosis I did not incise it. Paracentesis of the drum membrane was made and mastoid wound closed for three fourths of its length.

March 15 (five days after operation), wound redressed, looked healthy and patient sent home to her family physician for subsequent dressings.

Patient fully recovered; has a dry ear and good hearing.

Case 2. John B., age 7 years, referred by physician. General health good until present trouble. There was no history of a discharging ear. Examination showed tympanic membrane a little off color (pale pink). No bulging. Temperature and pulse normal. No pain except on pressure over mastoid in the region of antrum. Slight swelling over the mastoid. No redness. I was satisfied that it was a case of mastoiditis from middle ear infection which had existed some time prior to present examination.

Operation. Incision through the soft tissues and after getting through the periosteum pus was encountered coming from the region of the bone over lateral sinus. Splitting the scalp back over toward the posterior edge of the mastoid, I found a large

*Read before the Southeast Missouri Medical Society, Cape Girardeau, October, 1926.

perforation the size of a .44 bullet. I disregarded this for the time being and made my usual bone opening of the mastoid antrum and found it high, as it usually is in children. I then encapped the entire mastoid cortex, cleansed it of dead bone and enlarged the bone opening over the sinus. I found a sinus area filled with foul granulations and pus (perisinous abscess). I removed the bone over the lateral sinus from knee of sinus to tip of mastoid about one inch in length. I did not disturb these granulations as I had decided that the sinus itself was not clotted because the boy had no history of high fever or repeated chills. After finishing the operation, I opened the tympanic membrane and dressed the wound.

Temperature next day was 98. Pulse good. Appetite fair. No headache. Patient pursued the normal course and after a couple of months the wound healed. Ear dry. Hearing good.

Note: This was one case in which we had no history of discharging ear although there was no question of infection of the middle ear, probably virulent in type but not enough to produce a rupture of the membrane, which had gotten into the antrum and infected the entire area. I have no history of the kind of bacteria found as no culture was made of the pus.

Case 3. James Healy, age 6 years. Referred by Dr. T. B. Mansfield.

History. Patient had scarlet fever about one month ago. Suppurating left ear. Discharge profuse ever since. About two weeks ago ear began to swell, principally in the supra-auricular region and some in the postauricular region (above and behind the mastoid). Temperature about 100. Boy in fairly good condition. No headaches and no indication of any intracranial complications. Swelling extended over the zygoma (left side).

Examination showed small perforation in left canal drum membrane and considerable pus exuding. X-ray showed density over the mastoid above, indicating necrosis.

Operation. The usual incision was made. Tissue of upper part of mastoid very edematous. No pus encountered on opening the periosteum but at the lower and posterior part of the mastoid there was a soft necrotic spot which, by use of the curet, proved to be a fistula and pus poured out. Mastoid opened into the antrum; pus encountered. Cells friable and necrotic; other places soft. Mastoid very cellular, cells extending high up in the squama. The cells around the sinus were filled with granulations. Sinus was not uncovered as there were no symptoms. The interior of the mastoid was almost completely shelled out. Bone was diseased everywhere. Antrum was curetted gently, packed with two strips of gauze and closed to three fourths extent, dry dressing. I did not remove the adenoid nor did I make a paracentesis. Eight hours after operation child doing very well and temperature about 100. At 11 o'clock the temperature rose to 104.2/5 without chill. I ordered ice to the head. Next morning removed the dressing and found an acute inflammation very bright in color in the region of the stitches. Swelling extended postauricular and supra-auricular around to the eye and by night had closed the eye. It had the appearance of erysipelas but still did not have the very bright color of an erysipelas infection. Applied same treatment as for erysipelas, namely, hot salines and epon salts. Swelling disappeared after three or four days and temperature in the meantime gradually dropped. Very bad odor from the wound but no pus. No line of demarcation. I have concluded that it was an accidental infection of perhaps

staphylococcus. Within a week, the infection cleared up and the child was in good condition, having recovered from the acute process.

Subsequent history shows the case one of ordinary mastoid healing but the odor is more offensive than that of the usual mastoid. Owing to the great amount of bone removed, secretions are plentiful. Dressings have to be repeated frequently. Child doing very well physically and I expect him to recover entirely but, of course, there is a large depression postauricularly. Patient got along as any normal mastoid case except that the cavity, which had been entirely shelled out, was slow in getting well; in fact, after many months, it is not covered over with healthy skin and it will probably be another month before this mastoid is completely cicatrized. The last time I saw him, December 10, there was still a slight discharge from the canal, thin, mucopurulent in character with a slight odor, but the mastoid wound had healed.

So far this is the only case I could not call one hundred per cent. recovery, although I believe when this child's adenoids and tonsils are removed the slight aural discharge will cease.

Case 4. April 3, 1926. Pete N., age 6 years, referred by physician.

History. Child was considered healthy until about four or five weeks ago when he took chicken-pox. Seemed to have recovered after about one week. The week following he developed a cold and tonsillitis from which he recovered inside of a week. Then he began to have an earache off and on and developed a fever. After having this irregular fever, he developed a mastoid soreness and temperature of 104 to 105. This high temperature lasted only a few hours and then dropped.

The night before I saw him his temperature was 105. The morning I examined the child his temperature was about 100 but had been 99.2/5 from what the doctor said.

Examination showed a frail, delicate looking boy, rather anemic. Mastoid showed no swelling, no redness, no edema, but extreme tenderness over the entire mastoid, postauricular and cervical glands tender and enlarged. Examination of ear: Canal normal; tympanic membrane not retracted; no redness but white and apparently thickened. Throat apparently normal. Tonsils fair sized. Good sized adenoid.

I instructed his mother to syringe the ear every few hours with a lysol solution and keep an ice pack over the left ear. I gave the child some paregoric and empirin. That night the temperature was again high, no distinct chill preceding it although the child was a little cold. The next morning the child was brought to my office. He looked sick and had a temperature of 102. Mastoid extremely tender so I decided to open the tympanic membrane, under ether. I did a paracentesis, also removed a large sized adenoid. I removed the adenoid for two reasons, namely, to lessen inflammation of the eustachian tube and middle ear and for blood letting. I did not see the child the next day but I understood he was some better.

The following day, April 4, the child was brought in. The mastoid was not nearly so tender, the glands of neck were better, and the temperature had not gone any higher than 100. April 7, the boy looked much better, and was beginning to eat. The mastoid tenderness was disappearing and the discharge from the ear was profuse, pus yellow in color. Temperature 99.

Laboratory findings. The first day I saw him the blood count was 48,000. Blood culture was negative. X-ray first day showed the left mastoid dis-

tinctly cloudy. Examination and culture of pus showed a mixed infection, streptococcus pyogenes predominated. The child seemed to be making progress and the diagnosis of mastoiditis with an intact membrane probably originated from the infectious throat, which he had a week prior to my seeing him. His temperature again became very high with remissions so I ordered preparations for an operation.

Operation. April 9, the usual incision was made. No subperiosteal abscess found. After denuding the bone and periosteum, there was a little bleeding in the upper and posterior part of the mastoid, although the cortex looked healthy. After removing the cortex, I encountered free pus close to the tip, also in the Trautman's triangle and in antrum. The antrum was extremely large, probably coalesced with several small cells which broke down. The entire mastoid bone was soft and necrotic. After cleansing out the entire mastoid process I uncovered the lateral sinus for one inch. The sinus wall looked a little compressed and of a grayish-blue color; in other words, it did not look like a healthy wall. I decided from the symptoms (he had a temperature of 105 with sudden remissions two or three times a day and leukocyte count and pus in the mastoid) to open the sinus. After cleansing the mastoid wound carefully of every vestige of diseased bone, I cleansed it out with pure alcohol and opened the sinus, pressing above and below. There seemed to be a normal free flow of blood. Compresses were put in and wound sutured over mastoid pack.

Patient's temperature the night of operation rose from 100.6 to 105 by midnight. April 10, at 9 a. m., the temperature was 100.8; pulse 130; respiration 28. Patient somewhat delirious on the night of April 9 but seemed a little better the next morning. On April 12 the patient again developed symptoms similar to those prior to the operation. Temperature rose to 105 and dropped next morning to 101½ or 102. This went along for three or four days and the only difference I noticed was that the patient was extremely tender around neck and sternomastoid muscle and postauricular region; in other words, he had an adenitis which had existed prior to the operation but seemed to take on an acute inflammation. The fact that I opened the lateral sinus and did not find a clot made me feel that it was accidentally infected, although I used the greatest aseptic precautions. Dr. Saunders was called in consultation and he could not make a positive diagnosis but advised intravenous injections of mercurochrome. This was done and the temperature, which had been 104 and 105, dropped to 100 next morning only to rise again that evening. He had reactions which we usually find, vomiting, colored urine, etc. The next day or two, the temperature was still fluctuating but not over 103. We then had his blood matched and a transfusion made from the father. This seemed to do a great deal of good and his temperature again went down and did not go over 100 or 101 for the next four or five days. From that time on it gradually became normal after about one week. There is no question in my mind but that this temperature was due to the adenitis.

Subsequent history. Patient made an uneventful recovery, has good hearing and a dry ear, has gotten much stouter and is in very good health.

Case 5. April 14, 1926. Miss S., age 18 years, referred by physician.

History. Took down with lagrippe about five weeks ago. Ran the usual course and after a few days developed a suppuration of the middle ear, apparently running the usual course, free discharge, moderate amount of fever, etc. After two weeks

developed pain in the mastoid, although no swelling. This pain increased and temperature ran a little higher, ranging from 99 to 101 for two weeks. A day or two before I saw her, she had a slight swelling and edema at the tip of the mastoid and neck, no edema over rest of mastoid but slight redness and tenderness on pressure. The discharge from the canal was profuse; on wiping it away, it immediately returned. After doing this several times, I decided that the mastoid cells were full of pus. X-ray plates showed slight cloudiness in the left mastoid and a slight dropping of posterior superior wall. I decided to operate.

Operation. In elevating the periosteum we encountered pus near the tip of the mastoid. I broke down the cortex, destroying all the cells. The antrum was extremely large and very deep; in fact, the entire mastoid cavity was shelled out. Some of the cells extended into the occipital bone. Packing was inserted and two stitches used to close the upper part of the wound. Culture of pus was not made as they had no facilities at the hospital to make it.

Subsequent report. Patient doing nicely. Two days after operation, pulse went to 125-140. Empirin and bromides were given and two days later pulse was 114 and good volume. No elevation of temperature at any time. May 26, 1926. Doctor reported patient was fine and wound healing nicely. September 1, 1926. Saw patient at my office. The wound looked healthy and all healed except lower one third. There were granulations and small amount of mucopurulent secretion present. The wound was one fourth inch in diameter and one fourth inch deep. September 20, 1926. Saw patient again at my office. The wound was free of granulations, good in color and odorless. The middle ear was perfectly dry. The tympanic membrane was of good color, and the hearing very good. Warned her physician that wound should not be packed but allowed to heal. December 1, 1926. Patient in good condition; dry ear; good hearing.

Note: Profuse discharge all the time. Tachycardia after operation controlled by bromide.

Case 6. April 15, 1926. George S., age 36 years, referred by family physician.

History. Acute infection of nose and throat, probably gripe, four weeks ago (March 15). The left ear became involved and the tympanic membrane ruptured spontaneously. Discharge of pus was profuse. There was some pain over left side of head and ramus of jaw. No history of real headache, vertigo, ataxia, vomiting or nystagmus. No pain, swelling or edema of mastoid. Temperature 100; pulse 90; leukocyte count 13,000.

Laboratory report. Pus shows almost pure culture of streptococcus hemolyticus.

Examination of ear. Discharge oozing from tympanic membrane perforation at lower part. Color of membrane shows that the myringitis is subsiding. Sagging of posterior and superior canal walls but not pronounced. No swelling, edema or pain over the mastoid. Tenderness on deep pressure over site of the mastoid antrum. X-ray of mastoid shows right clear, left cloudy. Second X-ray one week later showed no change. Temperature 99.3 to 100. Pulse 90.

Diagnosis. Mastoiditis.

Operation. Usual incision; low and prominent temporal ridge. Upon chiseling through the mastoid cortex (outer layer of bone), I encountered pus about one quarter of an inch from the mastoid tip. Enlarging this, I found a large broken down cell or cells involving almost all of the mastoid tip. There was a large and deep antrum containing granulations. In the region of Trautman's triangle I found an-

other large cell filled with mucopus. There were granulations in the region of the lateral sinus. I uncovered the sinus but did not open it. Paracentesis of drum membrane. The wound in the bone was large and required a long time to heal, but after ten weeks the patient recovered. Dry ear and good hearing.

Note: No swelling, edema or redness over mastoid. Temperature 100. Pulse 90 all the time. Patient felt well.

Case 7. May 5, 1926. Ida H., age 14 years.

History. Had headaches off and on for a long time (all winter). Never had an earache or discharging ear. Four weeks ago (March 5), had a sore throat followed by earache. After about one week tympanic membrane became perforated and discharged pus. Discharging ear since. Mastoid became sore two and one half weeks ago.

Present History. Discharge about the same. Has had fever since Monday, May 1. Pulse 140; temperature 100.4. Vertigo and nystagmus to the left. Horizontal and rotary. Pupils, fundus and discs normal.

Examination of ear. Periauricular and postauricular swelling, worse over mastoid. Very tender even over occipital bone. Patient could not hear a watch or loud noise. Vomited yesterday. The discharge was thin pus and rather profuse. The canal was almost closed, probably due to granulations. I could not make out the tympanic membrane owing to swelling of canal walls.

Laboratory examination. Pus—streptococcus hemolyticus.

X-ray showed cloudy left mastoid. Blood count 16,400. Urine and heart normal. May 7. Temperature 98; pulse 100; respiration 28. Swelling over mastoid better, pain not so severe. Discharge thin. Upon recession of swelling in canal, I could make out large granulation polyp. May 13. Temperature 99.2/5. Pain over the mastoid, region of tip and on site of antrum, pronounced on pressure. Spontaneous nystagmus not evident. Hearing improved.

Condition of left ear. Patient hears watch two or three inches from the ear; feels pretty good; no vertigo. Pulse about 100; respirations 26. Second X-ray shows some breaking down of the cellular contents of the mastoid. Forks show bone conduction very short and prolonged air conduction. The seven day interval allowed the labyrinth to quiet down so I decided to operate.

Operation. May 14. Usual incision made. Very free bleeding. After removing the cortex, I found about one half teaspoonful of pus about the center of mastoid. The antrum was very high, small and deep. The posterior canal wall was necrotic and soft and I took it down all the way to the antrum, leaving only the bridge. The interior of the mastoid was also soft but not soft enough to break down with a curet, a chisel being necessary for most of it. I uncovered the lateral sinus from the knee downward for one and one half inches. Removed part of the occipital bone and uncovered two cells about the level of the lower part of the auditory canal about one quarter inch in diameter and almost one eighth inch deep. I also uncovered two or three small ones above that, in the region of Trautman's triangle. These contained granulations. The wound was packed with iodoform gauze and left open because the patient will be treated by the country physician. May 24. The wound looked fine. No symptoms of eye, head or ear complications. June 20. The wound was almost healed. Patient is in good condition.

Examination in December, 1926, showed healed mastoid, dry ear and almost normal hearing.

Case 8. July 3, 1926. Anna B., age 27 years.

History. Had a running ear for years. I do not know what treatment she had prior to the time I saw her. She had fever the last two weeks before she was operated on by aurist who did a radical mastoid operation. The attic and posterior wall of canal were cut away, ridge cut very low and no plastic made. The wound was closed except the lower part.

I was called in consultation two weeks after the operation. Examination of chart shows that the patient did not improve after the surgical interference; in fact, the temperature ran from 101 to 104 every day. In other words, she had a constant typhoid type of fever, which is common after a week or so in unoperated cases. The fact that the patient had no other disease and examination showed nothing to account for her fever, I decided it was a case of thrombosis of the lateral sinus.

Eye examination by oculist showed a slight fixation of the external rectus and superior oblique muscles, and veins of the fundus slightly engorged. This examination was twenty four hours before I saw the case. The neurologist reported meningitis.

Examination. Pain and stiffness of the neck. Pupillary reaction normal. Ophthalmoplegia in the left eye. Exophthalmus or bulging of the eyeball. Right eye: no fixation of muscle, a slight exophthalmus, veins of the sclera and ocular conjunctiva swollen at the lower edge of the cornea or limbus. Had a slight bluish tint which became worse; eye protruded more and more. Babinski sign negative; Kernig negative. In other words, there was no evidence of a true meningitis. The spinal puncture revealed none. (This was done twice before operating.)

Diagnosis. Thrombosis of the lateral sinus which extended into the cavernous sinus, left side; beginning to affect the right eye. Patient's pulse was good and there being no meningitis, we decided to operate, although prognosis was exceedingly bad. There are only a very few cases of recovery on record.

Operation. Lateral sinus exposed above the knees. Bleeding very free around the sinus and whole bony area around the mastoid. Cholesteatoma masses found here and there in the cavity of the mastoid and a very bad odor. Sinus was opened and found to contain putrid material or pus mixed with clotted blood. Masses beginning to break down. This was continued almost to the jugular. Neck opened, jugular vein exposed, tied and resected and stitched to skin of neck. Owing to patient's very poor condition and the fact that the nurse and doctor attendant said she might die within a very few minutes, I decided not to do anything more.

Postoperative. Temperature the next morning was very much lower. Patient was in better condition, although eye symptoms were no better. Twenty four hours later the eye symptoms continued to grow worse. Pulse still remained strong and regular. The patient was delirious at times. This continued until the exophthalmus became so bad that the conjunctiva almost obscured the cornea. The eye became very bluish, pink and fixed. The other eye was almost as badly involved. Patient died four days later. No post-mortem made.

Diagnosis. Chronic suppuration and thrombosis of lateral sinus extending to cavernous sinus.

Case 9. Sept. 28, 1926. Gertrude C., age 3 years, referred by family physician.

History. Always healthy before present attack. Ten days ago, September 15, child developed cold and sore throat. After a day or two, she had an earache in left ear which discharged pus freely. She had a high fever before the tympanic membrane ruptured and it continued without abatement.

Examination. September 25, child restless and

crying. Temperature 104; pulse 160. Child of dark complexion. No jaundice at the time. The right ear was normal; left suppurating, thick pus. Tenderness and swelling over the upper part of the mastoid, extending to the squama with a small amount of edema of scalp. I ordered the usual treatment, irrigation, ice, paregoric, etc. The next day, about the fifth of the beginning of the ear condition, the swelling over mastoid was much less but fluctuation made out about one and one fourth inches behind and one fourth an inch above the external auditory canal. Owing to the high temperature and pus, I decided to operate the following morning.

Operation. Usual incision made. No pus was found after incising through the periosteum. I made an incision one inch long posterior to my mastoid incision at right angle to it and opened a subperiosteal abscess. After cleansing the bone and retracting the scalp in different directions, I could not make out any diseased bone and no fistulous tract. I made usual opening into the mastoid antrum and found pus but the walls and floor were necrotic. This was scraped to healthy bone and the wound closed two thirds its length.

Temperature during the day and night was still very high and the child seemed in a mild stupor. The day following a pediatrician was called and thought I should open the lateral sinus, but the fact that the temperature and general symptoms were not like those usually found in that condition, I decided to wait. The second day after operation I had a leukocyte count made which was 32,000. The spinal fluid was negative for pus or bacteria but with a cell count of 40. There were no symptoms of meningitis at this time but a general icterus developed. Temperature the next day went to 105 and never got any lower than 103.2. Pulse 180 and thready. The child took nourishment in fair amount. The pediatrician was again called in and he still persisted that an operation was indicated. I ordered a transfusion and 300 cc. was introduced at 11 a. m., October 1. I had a blood culture made and after two days growth showed staphylococcus. The child presented a rigidity of the left leg but not paralysis (mastoid was on left). Outside of a cephalic cry and, perhaps, a slight rigidity of the neck and spastic left leg, there were no definite signs of meningitis.

I saw the child in the morning of the third day and examined her carefully. Decided that there was meningeal irritation but all the classic signs, Babinski, Kernig, eye signs, etc., were absent. A couple of hours after the transfusion the temperature began to climb and at 2 p. m. the nurse phoned that it had reached 108 and the child died at 7:30 p. m.

Postmortem. Dura adherent to calvarium. Vessels injected. Brain edematous and bloody. No exudation. Brain removed and sectioned. No abscess. No pachymeningitis in region of dura at mastoid site. Lateral sinus and jugular bulb normal. Stripped dura from bone and no necrotic area or discoloration found. Mastoid showed clean simple mastoid and no perforation. No necrotic spots over the site of the scalp abscess.

Postmortem diagnosis. Beginning meningitis, mastoid involvement from acute suppuration of left middle ear from probable scarlet fever or grippe, terminating in a general septicemia.

Note: Rapidity of onset. High fever. No relief after operation or transfusion. Blood culture showed staphylococcus. Leukocyte 32,000. X-ray of mastoid after operation negative. Icterus. Fast pulse.

REGULAR MEDICINE AND THE PUBLIC*

CARYL POTTER, M.D.

ST. JOSEPH, MO.

In order to correct many erroneous ideas of the laity and to give those who have never taken the time or pains to investigate the agencies working for or against their health and welfare a correct interpretation of the interest of the medical profession in the public's behalf, it might be well at this time to consider the relationship between regular medicine and the public. That the layman may appreciate the extent to which these efforts have been directed, we must first consider the tendencies of the present age; define the prefix, Doctor; explain the requirements necessary for the practice of any art which deals with human life, the health of which is essential to happiness; relate the scope of that fully developed art and then show how any deviation from its ideals and principles can lead only to unhappiness and disaster.

Perhaps this is an age of transition expressed in dissatisfaction with existing conditions. Every art, business, profession and science is bemoaning the fact that the advocates of eccentricities are attacking it and recommending illegitimate cults, based on unsound, illogical premises.

Many historians have attacked the writings of such unsound philosophers and dreamers as H. G. Wells, and stated emphatically that his "Outline of History," although posing as an exposition of historical facts is more a citation of his own ideas concerning evolutionary eras molded to form a basis for the preaching of his own philosophy and prophecies. History must deal with chronological facts and cannot include the philosophy of the future, nor can the author's personal views be allowed to overshadow true events. Unlimited speculation and surmisal regarding past, present and future individuals and events is the license of fiction, but oversteps the bounds of history. Poetic license knows no bounds but the most temperamental must admit that some of the current trash is only strengthening the standing of Burns, Shakespeare, Homer, Virgil, Longfellow, Emerson, and Tennyson. Newspapers, looking for the sensational, make so much ado about misanthropists, some of the brand recently deported to Russia, that we often wonder if biographers will make an effort to record similar gallery players among the great biographies of the present. Then when we re-read the autobiographic masterpieces of Benjamin Franklin and John Stuart Mills we know that

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such anomalies will pale into oblivion. Prose and fiction of today are producing many great books, yet time will tell if "When Winter Comes," "Main Street," and "The Four Horsemen of the Apocalypse," will stand the test of the ages and rest beside "Les Miserables," "David Copperfield," "Vanity Fair," "The Mill on the Floss," and "Anna Karenina." In the field of education much is being done by faithful workers striving to establish a higher, more idealistic mental development, but often combated by a multitude of sophistries. Never in the history of time was there a period when religion was undergoing a greater test. People in seeking a higher moral and spiritual plane are beginning to forget the tenets of the brotherhood and helpfulness of man in allowing their ideas and ideals to become self-centered and, instead of preaching harmony and love, are gradually drifting into disharmony, hatred and bitterness, forgetting that any road to a future life based on mistrust, bigoted catechisms and religious intolerance not only sows the seed of ruin but cannot fit very well into a firm belief in faith, hope and charity. The great art galleries look down complacently and securely on the efforts of the cubists—pygmies and futurists—who are trying to substitute grotesqueness and harshness for beauty and softness of line and color.

Admitting these, how has science fared? How bold a question when we know that it deals with classified knowledge! As one stone added to another gradually lays the foundation for a house, so the piling up of the truths of science gradually unfolds the mysteries of organic and inorganic matter. The law of gravity is a matter of scientific history, yet has always stood the test of time and paved the way for corollary findings. Science then does not need to concern itself with vagaries, eccentricities and fads. Their very falsities remove them from the realm of science. Then why should scientific medicine be called upon to explain itself?

Just as science is as old as the ages, it was thought that a man must be old in years before he acquired scientific knowledge, so in order to attain the look of maturity and exact public respect, the physician cultivated a beard, mustache, spectacles and acquired a bald spot. Therefore, physicians and scientists developed a personal appearance resembling Methuselah.

The prefix doctor designates one skilled in any particular branch of knowledge; a learned member of a faculty or university, or is a title given to a learned man for some noteworthy achievement or to a medical graduate. In most countries it demands and guarantees respect but in America has become so abused as to

designate any artisan, from a man of learning to a chiropractor or hospital orderly. I once knew one of the latter who would mistreat patients refusing to call him doctor. Imitation is the highest form of flattery, a reasonable explanation why the tyro and pretender feels that his highest ambition has been attained after he has acquired enough nerve to clothe himself with that honorable title.

Medicine is a combined science and art. As a science it is classified medical knowledge. Anatomy, physiology and pathology are the three fundamental medical sciences. The first investigates and describes accurately the component parts of the human body. The second deals with the normal function of these parts and the third shows their abnormal deviation under the ravages of disease.

Through years of research and study by trained minds it has been found that the human body in health and disease has so many structural and functional complications that these three fundamental sciences have undergone subdivisions: anatomy, thereby falling into gross anatomy, or the structure revealed to the naked eye, and histology, that observed by means of the microscope. In physiology, the body has not only normal functions that can be investigated by instruments of precision, but the building up and breaking down of the cell in the various metabolic processes involves the secretion and excretion of so many solids, liquids and gases that chemistry is the predisposing factor in all normal physiological action. Therefore, physiology has been separated into physiology and physiological chemistry. Just as anatomy deals with bodily structure in health, so pathology deals with it in disease. Under the attack of bacteria and diseases of unknown origin such invasions and inroads are made upon normal cell life and gross anatomical structure that an entirely new picture presents itself in the gross and microscopic appearance of the organ or organs attacked. Therefore this science naturally falls into three groups: bacteriology, gross and microscopic pathology. In bacteriology we see the parasitic causes of the change in the cell structure; in gross pathology the changes in the naked-eye appearance of the gross mass, and in microscopic pathology those changes magnified under the microscopic lens.

That these fundamental sciences and the higher medical branches may be properly studied a trained mind is required since it easily grasps known truths and investigates the unknown. A preliminary education is not only essential but absolutely necessary for the medical student, because there is no other science in which the truths are more complicated or the

unsolved problems more numerous. First, there should be a grammar and high school course, then at least two years in a college or university, or, if possible, a scientific degree.

In most foreign countries and in many of our states, advanced in education, a preliminary two years, is compulsory. This has been so arranged that it is practically a study of language, including English, Latin, French, Spanish and German, the biological sciences, organic and inorganic chemistry and physics. In the full university course one should add Greek, psychology, drawing, advanced chemistry, botany and English, with as much additional study of modern languages as is necessary to perfect a reading and speaking knowledge. Why are these included?

Let us first consider the languages. An English scholar not only interprets his reading correctly but writes intelligently and presents his subject accurately. Why is Latin so essential? Because the etymology of many English and most medical terms is Latin with a smaller percentage Greek. French, Spanish and German are included because some of the best in medical research and literature originates in the Romance and Germanic nations and appears in their languages without satisfactory translations. Then, too, medical men often visit these countries and when familiar with the language they are better able to pursue their studies.

The cell structure of vertebrates and invertebrates so closely resembles ours that the study of biology and comparative anatomy leads naturally to a foundation for the study of human anatomy and gives a comparative basis for tracing its relationship to other forms of organic life.

The basis of study for organic and physiological chemistry and *materia medica*, or the study of drugs, is inorganic chemistry and the requirements of diagnosis and treatment are so dependent on all of them that a full course in each is essential for both the study and application of medical teaching. Physics is the science of matter in motion and teaches mechanical, electrical, thermal and hydrostatic principles, so necessary in medical practice.

A preliminary preparation and mastery of the three fundamental branches are therefore most necessary before commencing the study of higher branches of medicine and surgery with the practical application of medical and surgical treatment. This leads to my second topic, the art of medicine, which is nothing but the every day use of methods of study and training in diagnosing and treating disease, in order that human ailments with their attending disabilities and distress may be relieved.

Individual diseases are investigated in order

to supply any necessary form of medical or surgical treatment. To accomplish this the patient must be an essential part of the study and for this reason the last two years of all great medical schools are incorporated with hospitals so that bedside contact work can be taught before the medical graduate commences his internship in a hospital where he can practice medicine, observing and directing accepted methods of treatment under supervision and check by staff members, men of accepted rank and proficiency.

Through the combined efforts of the American Medical Association, the Carnegie Foundation for Medical Teaching, the Rockefeller Foundation and some of the greatest lay educators of this generation a three-fold combination of university, medical school and hospital was perfected, thereby supplying well prepared, honest, efficient practitioners for public protection and also stimulating scientific advancements by training men who could keep abreast of the times and apply themselves to deductive thinking and reasoning for the solution of unsolved mysteries. (What investigative work of any value has ever come from the minds of boisterous, exaggerated prattling of the charlatans, irregular faddists or eccentric members of any of the irregular cults, advocating the short cut to scientific medicine?) Regular medicine is attempting to save the public from the exploitations of their bodies for commercial purposes.

The diploma mill had ceased to exist, and the future might have looked bright for the safeguarding of the public against quackery and cult practice but, due to some developments of the past few years, it would seem that the public wished to be imposed upon, for just as soon as the medical profession had made a heroic beginning in cleaning its own house there commenced to spring up various cults and isms which, in proposing occult doctrines based upon illogical foundations, offered the panacea for all ills. By the generous use of patent medicine advertising methods the people have been gulled and it is peculiar that the sympathy of many of the otherwise intelligent classes has been enlisted. Barnum was right. The greater the fake the harder the fall.

Owing to the various forms of drugless healing, confusion has arisen in the administration of the medical practice laws, through misconceptions of what is meant by this simple term, practice of medicine. It is evident that any one who is to treat human disorders, regardless of the method used, should have a knowledge of the fundamental sciences by which he can make an accurate diagnosis. It follows also that the educational qualifications required of one, the

physician, should be required equally of all who profess to treat the sick. Legislators have at various times overlooked these facts, have listened to the claim of would-be healers that because they "did not use drugs" they were "not practicing medicine," and have granted them authority to practice on lower qualifications than are required of physicians. Such action is illogical. That the practice of medicine is not limited to the giving or withholding of drugs, but includes any and every useful means of diagnosing or treating human disorders has been recognized repeatedly by the national supreme court. In the Texas case it was declared that osteopaths, like physicians, should be required to have scientific training, and a clear distinction was made between osteopaths, on the one hand, and nurses and masseurs, on the other. Osteopaths, it was implied, gave treatment without a physician's diagnosis or instructions, while nurses and masseurs performed their functions after a physician had ordered the treatment or care. The decision applies with equal force to any other class of healers with limited training and scope. Recently a decision has been rendered by the United Supreme Court which clears the atmosphere in Ohio. Chiropractors, it has been ruled, must secure licenses from the medical board or they will be subject to prosecution for practicing illegally. The various healers in bombarding the legislature—too often successfully—to secure special privileges in regard to practice, have indeed caused confusion in medical licensure, but the confusion is beginning to be cleared away. The issue should be tested on the basis of reasonable educational qualifications and then, if necessary, each case should be carried through the United States Supreme Court, where the merits of the claims may be determined. The forces for law and order in each state should not rest until one standard for educational qualifications has been established which will be equally fair to the physician and to everyone else who is authorized to practice the healing art. Even granting that there may be some good in the methods emphasized by any group of healers, this good will in no way be diminished if those applying such methods are required first to have had a training in the fundamental medical sciences. By lobbying legislatures, spending money lavishly for propaganda and false arguments, the cults have in many states influenced law making bodies to pass statutory provisions allowing them to practice the arts of the regular practitioner.

The next step is the establishment of hospitals and an effort to obtain licenses that with insufficient training they may be allowed to

practice all branches. Who, then, is the sufferer? The medical man? Of course not. The public, as usual, pays the price for inadequate, often useless and unnecessary medicine and surgery, based on poor judgment and insufficient training, yet the public seems to be less interested than the medical man. How can anyone with insufficient training in the fundamental medical sciences, poor hospital and bedside experience, without close contact work with a finished surgeon for a three to five year period expect to practice his art successfully?

Two new schools of rubbing and spine punching have recently sprung up in this country and are running the gamut of public hysteria. Like other cults they have displayed something unusual to attract the prospective buyer. One manipulates the bones and joints in a peculiar way, while the other claims to adjust the spine for all manner of queer humors of the nerves, all of which are corrected by a punch.

Osteopathy sees the writing on the wall and, in striving to practice general medical branches, is trying to enter the field of general medicine, always holding out that its requirements are improving. The very fact that it wishes to improve will soon bring the realization that in order to survive it must live up to the requirements of regular medicine.

These cults are merely short cuts to medicine. Universities have not incorporated cult courses in any of their curricula and the boards of curators and trustees of our universities are not physicians but intelligent laymen. Why are not such courses installed? Because of the realization that cults are offering nothing that the regular medical profession has not incorporated or discarded; that they have nothing that compares with physiotherapy, which embraces electro, mechano, thermo and hydrotherapeutics. What does physiotherapy mean? It is the form of treatment governed by a thorough knowledge of physics, gained by university study and specialization; electrotherapy, the physics of electricity; mechanotherapy, of mechanics as applied to the body; thermotherapy, of heat, cold, and light; hydrotherapy, of water.

All the special virtues claimed by the rub doctors are included under mechanotherapy, only one branch of physiotherapy, and lack of preliminary training in physics demonstrated an insufficient knowledge of the physics of levers and pulleys necessary for the study of orthopedics, the branch of medicine limited to study and treatment of diseases of the muscles, bones, and joints. Editorials from the *Journal of the American Medical Association* (April 29, 1922) are quoted: "Reputable medical schools

require for admission two years of college education in addition to a four year high school course. Not one of the osteopathic colleges requires more than a high school education for admission, and only two enforce even this requirement. Inspection also discloses that osteopathic colleges lack properly equipped laboratories; they lack expert, trained instructors, in the fundamental sciences, and they seriously lack clinical facilities." Quoting from another editorial: "By any logical manner of thinking, all methods by which human ailments are treated, are covered by the term, practice of medicine." Swedish massage is the best form of rubbing and when given by a Swedish masseur is most efficient.

People often hear and use such terms as Swedish massage without any knowledge of the origin of the appellation. Why did the Swedes perfect it? Necessity is the mother of invention. Several years ago a terrible epidemic of infantile paralysis ravaged the Scandinavian peninsula, and afterwards fresh epidemics of this infectious disease recurred attended by a large mortality. After abatement there were left in its wake cripples with wasted muscles and distorted joints, the most pitiable types of disability. Many of the families of these disfigured wretches learned that partial or complete function could be restored by rubbing. From its first crude beginning it was more fully developed by attention to muscular attachments and nerve distribution until it became a highly developed art and today massage and trained masseurs are expressions of the development of this mechanical art originating in the Scandinavian peninsula and adopted by scientific men in every civilized country. There is nothing new in it nor has it been unknown to the medical profession of this country. The Battle Creek Sanitarium and the physiotherapy department of the army are only two of many examples where this art has been developed by American medical men. Cults which have adopted this have merely plagiarized upon the Scandinavian and as rub doctors and spine punchers are trying to give our people a crude form of the real thing.

Plagiarism always has been and always will be looked upon by educated men as the lowest form of petty thievery, just as deadly a stigma as the cell for the ordinary thief. A man once caught forever buries his aspirations to literary greatness. Appealing then to your common sense and good judgment, I ask: If literary plagiarism is to be detested, isn't medical plagiarism worse? One who steals literature is jarring our sense of justice for the real author to whom credit is due. Medical plagiarism exploits the

sacred precinct of the body in which there is one physical being and one soul.

The son of an educated, well-trained physician was talking with his father regarding his future and the possibility of becoming a physician. Harassed by the thought of the years necessary for the perfection of his training, he was chafing a little and hoping that a way would be suggested whereby he might gain the desired end by a shorter and rosier path. To substantiate his argument he cited Dr. Jones, just down the street, who apparently knew little but had a large practice. The father said: "Thirty-five per cent. of people, with ordinary complaints, are suffering from constipation. Patent medicine venders know this and Dr. Jones practices medicine on that assumption. He ties a string around his patient's middle. If the pain is above the string, he gives an emetic; if below, a physic, if on the string, both. My son, if you are tempted to camouflage the public, discard the idea at least to keep your own self-respect."

Rulings of medical societies and statements of prominent medical men like Osler, who was pounced upon by a sensational press for tritely saying at a social gathering that all men above 45 should be chloroformed, are often misquoted by the lay press to the discredit of the medical profession. Newspapers are encouraged in this by cults and isms, which attack regular medicine at every vulnerable point in order to gain a foothold with a gullible public.

There is nothing wrong with modern, scientific medicine and surgery and scientific advancement in these has been the greatest boon and blessing to humanity. Both have been developed and are undergoing daily improvement by their own efforts, out of proportion to any aid they are receiving from outside sources and often in the face of opposition from the very public they are endeavoring to serve.

This has been called an age of irregularities and short cuts. Having become so interested in the monetary considerations of life we sometimes seem to have discarded art for art's sake, the pleasure of fine work and the gratification of seeing it well done, for mere profit. After you have read the autobiography of Benvenuto Cellini, the famous Italian goldsmith, you will realize that, immoral and sensual as he was, he lived for the perfection of his art and with him it was supreme. Let us then make our labor worthy of our hire, the payment of the bill unnecessary till supremacy and recognition of our work have been achieved.

The conscientious surgeon prevents as many operations as he performs. The conscientious practitioner advises necessary surgery and does not treat as medical cases those he recognizes

to be surgical, and does not treat any form of disease he feels himself incompetent to handle. Every physician is not a surgeon and every surgeon is not versed in many of the intricacies of laboratory technique and instruments of precision for making an obscure diagnosis. The conscientious surgeon summons competent consultants when he feels they are necessary for a correct diagnosis, but does not burden the patient with unnecessary expense for such aid when his own armamentarium is sufficient.

According as medical men are honest or dishonest, trained or ill-trained, they may be divided into four classes: (1) The honest trained; (2) the honest untrained; (3) the dishonest trained; (4) the dishonest untrained. The same classifications might apply to all businesses and professions, but it is more appropriate from the standpoint of the medical profession because of the greater opportunity for good or bad service.

The outshining gem is the honest, trained physician or surgeon. Does the public always appreciate him? Through long years of training he has become schooled to recognize and classify facts, and a fact being a truthful representation of existing conditions makes dishonesty with him impossible. His very pride in his work causes him to abhor dishonesty. How often does the public consider a physician's honesty, schooling, hospital training, experience with men of ability and modesty when employing him? A slap on the back and a plaster-of-Paris smile go much further with many and are dubbed personality. Frequently the well-trained, scientific physician has been sickened and discouraged by some patient's remark that personality counts when one employs a physician, yet personality doesn't teach his brain cells to formulate correct diagnoses nor does it guide sure, deft fingers past important life giving structures to distinguish the normal from the abnormal. Personality and a "slick" manner are good camouflage while awake, but not needed when asleep under an anesthetic. Then are needed intelligence, judgment and dexterity, and these are gained by mentality, honesty and training.

The dishonest, trained, are in small minority and confined to a small group who have allowed commercialism to blind early training and teaching, just as the teachings of good parents will often be ignored by a wayward child. The honest, untrained, are much safer because their very honesty makes them seek competent consultation before arriving at vital conclusions.

The class that have brought much odium and distrust to medical science and practices are the dishonest, untrained commercialized coterie among whom are found the advertising quacks,

the cults and so called specialists, whose only claims to that distinction are their own announcement cards not substantiated by mentality, schooling or acts to justify their assumptions.

So often dazzled by the glare of the surgeon's instruments and daring the laity forgets that the medical man is often the more brilliant and worthy of commendation. Reasonable fees are paid for surgical work, but for an equally brilliant or more difficult medical diagnosis and treatment a pittance is frequently handed out. Diagnosis and judgment are more important than the operation, although one who can perform the latter skillfully is just as necessary, provided he is working with a safe diagnosis and good judgment. The inadequate and many times pauperizing fees that the public unwillingly pays for a correct, exhaustive diagnosis has forced many otherwise excellent medical men to practice surgery where they knew themselves incompetent.

Before you wail about your internal organs being exposed too freely by the surgeon or would-be surgeon's knife be sure you are a little more discreet in inquiring about the morals, preliminary high school, university and medical school education, hospital training, assistantship and association with men of ability of the men you select to enter the sacred recesses of your body. An ounce of prevention is worth a ton of cure and the best prevention known for bad, after surgical results is an intelligently selected, honest, well-trained surgeon. Don't expect to receive a cure in a day but remember that the local condition which necessitates surgery may be only a part of a degenerative process, which may take time and treatment to overcome. Don't be in such a hurry to run after cults, isms, and pathies, whose only claim to your patronage is the assumption that they have something new, mystifying and soul filling to offer you. The touch or sharp eye of an individual healer does not gain results but the handling of any form of therapy must be accompanied by the same intellect and honesty of purpose which have schooled the practitioner to proficiency. And you may be pretty sure that if any method or practice in healing is not advocated by the most intelligent medical men, it has been tested in laboratories, universities and high places of learning and found wanting.

The profession has often been justly criticised for not taking the public more closely into its confidence. There is no machine the public knows less and should know more about than the human engine, none that is more highly developed and shames others more from the point of mechanism. Our scientific magazines are full of information concerning modern in-

ventions and investigation for public information. Medical men publish the results of investigations and scientific medical achievements, and circulate them among the members of the medical profession. It is too bad there has not existed a lay medical journal for public information, but that is just what the American Medical Association is now issuing in the form of a journal called *Hygeia*. It is proving a great medium for overcoming public ignorance regarding body mechanism. The fear of being accused of commercialism and advertising had previously prevented this type of publication but the more conservative members of the profession were won over and under the supervision of the American Medical Association the public is getting facts.

From our own profession and the public we hear a great demand going forth for the old family physician. He was superior perhaps in ideals and his judgment and reasoning power good, yet his knowledge inferior to his more modern successor. As a profession we of course do not wish to descend the scientific ladder. The cry for the old family physician is rather an expression of a desire to imbue the modern school with the ideals of the older generation. In our thirst for knowledge and thoroughness we must not neglect professional ideals. Intolerance, egotism, unfairness, jealousies, and too much commercialism must disappear and the broadminded men take the upper hand. The medical profession is its own worst enemy. It has been said that physicians, musicians and artists have suffered more from personal jealousies than any other classes. Who can offer an explanation why the three greatest professions suffer most from jealousy? All three should cooperate more and dissent less in constructive legislation. Ethics are all right but a man's ethics is determined within himself and not made by typewritten laws of self-conduct. One must not forget that the greater part of a physician's armamentarium lies above his ears and not in instruments of precision, laboratories and large unwieldy apparatus. All three however are essential aids for the direction of intelligent grey cells. Frankness, human sympathy, intelligence and a practical psychology should supersede profundity, pose, ignorance, carelessness and deception.

If we can develop practical, medical psychology in suggestive therapeutics we have added a great practical agent in the treatment of medical and surgical diseases. Twenty-five per cent. of disease is mental or accompanied by a strong psychological factor and a great many medical men and schools have neglected the study and application of practical psychology. In dealing successfully with the psy-

chology of disease in connection with physical illness the physician develops his highest art.

Among the misguided advocates of Christian Science a great many are admirable people. Medical men hold no feeling against them except as they attempt to treat organic diseases by spiritualistic and religious methods. They preach a beautiful elysian doctrine, and if one could deny the realities of life and live in a realm of metaphysics, a discarded science based on false premises, fairyland and dreamland would pale into insignificance compared with the idealism of our own world. The absence of the word sympathy in their vocabulary is apparent because if sorrow and distress do not exist in the world there is no need for sympathy. From the practical and sociological viewpoint we know there is sorrow and distress in the world and a need for a very broad sympathy.

From Nantes, France, whence as much quackery has come as from any locality in all Europe, there now springs forth a hitherto unknown apothecary, who is organizing a cult and dishing out to the public a doctrine which is the highest form of "kidding one's self." This includes the mumbling and muttering of such phrases as "Every day in every way I am growing better and better," just as an idiot at one of our State Hospitals struts about the grounds wearing a crown and a half dozen tin medals, repeating over and over, "I am King of the world. I own millions of acres of land, mines, cattle and chattels." He feels like a million dollars, but no one denies he is an idiot. Any individual might say over and over to himself "I am growing more intellectual every day and in every way," but that would not make the assumption true unless by hard study he acquired knowledge. Nor would the same jabbering about growing richer every day become realized unless he had studied and applied business methods sufficiently to develop the means of becoming wealthy. While psychology and autosuggestion are valuable aids in treating mental diseases of neurotic origin, they have small place in the treatment of organic diseases with their recognized signs and symptoms.

Coue has originated nothing new. Like the patent medicine company, which often uses the open formula of some ethical physician or well known hospital and adds one or two unessential ingredients and advertises it extensively until a gullible public has licked it up, he simply presents a form of autosuggestion which is old in suggestive psychology and therapy. Every physician recognizes the power of autosuggestion in diseases of nervous origin. Superstition and self deception with a pinch of faith thrown in have been patent remedial agents

since the beginning of time. The herb of the Chinese doctor, the spinster's red flannel for rheumatism, the rabbit's foot, the grotesque appearance, furtive gestures, hokus-pokus and weird surroundings of magnetic healers and thought analysts are the stock in trade of the fakir who plays on human emotions, ignorance and superstition to the nth degree. The most ignorant, exaggerated type is seen in the negro campmeeting where, in a frenzy of religious ecstasy, the simple, childish mind of the negro transforms him into a spiritual trance. A night's sleep and a day's labor makes him equally eager to visit the chicken roost the next night. Ascending the various steps of the intellectual ladder we pass from the patent medicine drinkers to the highbrow who indulges in debauches of hypnotism, new thought and coueism. Then comes a generous supply of testimonials. The opening pages of Coue's book are filled with them—another evidence that he is commercializing his idea because testimonials bring business. Every patent medicine advertisement is accompanied by testimonials, some of them bought, some gained by deception, some honestly given by individuals who have or think they have derived good from some particular remedy. Motion picture actors, playwrights, champions, or those who are enjoying the benefits of public favor, are particularly sought after. Many men of prominence may remember that they have been presented with a set of books in return for a letter of recommendation or a promise to appear on the list of purchasers. New plays seeking public favor present passes to prominent patrons.

When the exponents of any wrong or doubtful enterprise are attempting to gain public favor, and their chief opponent is some strong, honest watchdog organization, they immediately dodge the issue as to whether or not their cause is worthy and accuse the stronger organization of being a trust discriminating against all outsiders for selfish interests. Therefore, when a new, rapacious, mystifying cult, or short cut to medicine attempts to gain standing its first move is to anticipate attack by an assault on the American Medical Association. This association is one of the greatest friends the public has ever had, and in conjunction with its great journal stands as a watchdog between it and the agents or agencies that would destroy health and happiness. Its laboratories have thoroughly analyzed and published the formulas of every patent medicine on the market, showing the uselessness of some, the harmfulness of others. Every proprietary or other drug that is submitted for use by the medical profession is first analyzed and then discarded

or approved. Its activities have done much to ruin the patent medicine industry and has made the great drug houses fear to offer to the profession any drug without proven merit. These are only a few of the activities of this splendid organization and its journal. Enumeration of all of them would fill a volume.

When constructive legislation is being advocated, the quacks, cults and isms have always invited and too often obtained public sympathy with the timeworn, insidious, fallacious propaganda that the medical profession is a trust, opposing all competition. As has been stated this allegation, although untrue, has often been most effectual in prejudicing the public and lawmaking minds against the profession in favor of the quack or fake cult.

In Missouri one cult has been cute enough to have a separate board appointed for licensing its candidates and these candidates are licensed to practice any branch taught in the schools. The statute does not say how well it should be taught, but merely states that it must be a part of the curriculum. In other words, the word surgery and children's diseases, may be names in the curriculum, and only a one or two week's may be given, but, without even a smattering knowledge concerning the subject, a candidate passing their special board is turned loose to give any kind of medical advice, practice any kind of medicine, attempt to perform any kind of technical, surgical operation, the training to do which requires the most painstaking time and study.

Why, for any other reason than politics, should there be any objection to a national, nonpartisan board of examiners for everyone practicing the healing art in whatever form?

If the public has no information concerning medical facts of vital importance, whose is the fault? Probably you may answer, "The medical profession." Why hasn't the American Medical Association with its membership of some 75,000 given the public the facts? Ours is a profession, not a business. The highminded medical man abhors advertising methods. "By their works ye shall know them"; and any educated man believes that good work will reap its greatest harvest. Any advertising he might do could be imitated by any charlatan. There is no law that prevents a mountebank from making any exaggerated claim in such an advertisement, whereas the integrity of the honest physician would necessitate truthful statements else he would soon be ranked with the tyro.

If you ask the question "Is the practice of medicine worth while?" I would answer, "If the living of life is worth while, certainly the saving of life is worth while." But you must

love the work so well that devotion to the calling overshadows irregularities in sleeping and eating; the trials and tribulations; the lack of recreations; disappointments; sacrifices and short life, the penalties exacted from any work well done. Anything done well is worth while.

Newspapers, magazines and periodicals exploit all manner of other scientific discoveries out of proportion to the space given those of medicine yet there are more weekly and monthly medical journals publishing investigations of medicine and surgery with their special branches than all the others combined. Just as certain traits through years of tradition and precept are peculiar to various races, the inherent modesty of regular medicine has, rightly or wrongly, shunned lay advertising. Medical men have not sought extensively to have their biographies and works published in encyclopedias and popular periodicals. Where then are the great biographies of noted physicians going to be recorded?

One evening half asleep in my library chair I was musing in some such manner when I seemed to be walking down the hall of the ages, a humble tourist, being allowed a temporary glimpse into the chambers of the hall of fame reserved for the men who had made great contributions to posterity. First were the tombs of famous women and my fleeting fancy caught the names of Elizabeth Barret Browning, Madame de Stael and the Empress Josephine; then those of great reformers and teachers and my vision met those of John Wesley, Henry George, John Knox, Abraham Lincoln and their kind; great musicians and Mozart and Beethoven loomed forth as the ones who had given the great symphonies that had charmed the hearts of men and melted their souls; great artists, who by their art, had given expression to man's immortality; and so on to the great philosophers, business men and the rest.

Then for an instant I paused. An unsatisfied want, a lack of something to complete the grandeur of the conception seemed to overpower me. Still at a loss to know the cause, my vision caught sight of an abbey set apart from all the rest, tenderly guarded by the *Great Physician*. Illuminated by many candles it stood as a sentinel guarding the ills, woes and afflictions of the past, but protecting with infinite hope the path of unsolved mysteries lying just beyond. Entering its sacred portals I beheld the tombs of great contributors to the medical thought of all time. There were the sepulchres of Vesalius, the father of anatomy, Pasteur, of bacteriology; Lord Lister, Samuel Gross, General Gorgas, the conqueror of yellow fever, John B. Murphy, and others too numerous to record. Not among the least of these was a

tomb dedicated to the unknown physician who, with honesty and steadfastness of purpose had travelled through this world unknown to history, except as he represented that great body of physicians who, giving all but reaping little of riches, had gained more in the enrichment of themselves. As a fitting dedication I read the following epitaph:

"And is he dead whose glorious mind lifts thine on high? To live in lives we leave behind is not to die." And then the words of the chronicler came to me: "In observing greatness we ourselves are great."

At last, at last the verdict of history had elevated the medical man to his proper place in the "Hall of Fame."

731 Faraon St.

EFFECT OF VAGUS NEUROTOMY ON PYLORIC SPHINCTER

The principal purpose of the study made by Walter Hughson, Baltimore (*Journal A. M. A.*, April 2, 1927), was to determine the role of the vagus in the reflex activity of the pyloric spincter. From a practical standpoint, the fact that the vagus is at least the principal efferent pathway of this reflex arc seems to have been demonstrated. Only one difference existed between a normal and an experimental animal; namely, the vagus nerve supply to the stomach had been interrupted. It would seem, therefore, perfectly proper to explain the difference in effect of peritoneal irritation on the basis of the latter experimental procedure; that is, vagus section. And furthermore, if division of a given nerve destroys the reflex effect of a known stimulus, it is equally reasonable to assume that the nerve in question enters into the reflex arc involved. Experimentally, the vagus has been shown to be a motor nerve, and in consequence could be only the efferent path of the arc. So far as physiologic proof of an anatomic relation is valid, the fact that the vagus represents the efferent path of this particular visceral reflex would seem to have been demonstrated. Section of the vagus nerves in dogs either at the cardia or on the anterior and posterior walls of the stomach caused a decrease in the normal emptying time of the stomach under given experimental conditions. The presence or absence of sympathetic fibers in the two types of nerve section did not have any effect on the ultimate result. In approximately one third of the experiments, a slight residue remained in the stomach at the end of the active period of emptying. There seemed to be a relaxation of the stomach wall at this time. Following section of the vagus trunks or the gastric branches of the vagus, it was impossible to produce a reflex pylorospasm by peritoneal irritation. The latter reaction had been found to be constant in all animals with an intact vagus supply to the stomach. The efferent role of the vagus in the visceral reflex involving contraction of the pylorus as a result of peritoneal irritation is believed to have been established.

CEREBROSPINAL FLUID IN DIFFERENTIAL DIAGNOSIS

Frank Fremont-Smith and James B. Ayer, Boston (*Journal A. M. A.*, April 2, 1927), present a chart of cerebrospinal fluid examinations which they believe is helpful in differential diagnosis. While based on exact statistics, the figures presented are not averages, but estimated values.

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EDITORIALS

THE SEDALIA MEETING

The 70th annual session of the State Medical Association passed into history at Sedalia, May 5, with the record of having been one of the most successful, interesting and harmonious meetings the organization has enjoyed. From the opening session of the House of Delegates on the morning of May 2 until the close of the scientific program at noon Thursday, May 5, one heard only expressions of commendation for the Committee on Arrangements in looking after the comfort and welfare of the visitors and of appreciation of the Committee on Scientific Work for the excellence of the program. Many of the papers were of high scientific importance and all of them were of practical value.

In the House of Delegates the new constitution and by-laws were adopted with few alterations. One important change was a provision to accept new members at one half the amount of the regular annual dues for the first two years subsequent to graduation. This provision was adopted in order to permit those societies who have been admitting such graduates at one half the regular dues of the component society to pay only one half of the State Association dues. Until now the component society was compelled to pay the full amount of the State Association dues for such members. The St. Louis Medical Society and the Jackson County Medical Society have been encouraging new graduates to join at one half the annual dues and from now on will be required to pay only one half the State dues for such members. In this way it is hoped that we shall encourage a large proportion of recent graduates to affiliate with the organization soon after they have received their diplomas. Another change was the provision for a president-elect and the omission of all vice presidents.

The report of Dr. H. E. Pearse, Chairman of the Legislative Committee, supplemented by the report of Mr. J. Henry Ca-

ruthers, special attorney during the session at the legislature, was received with enthusiasm and applause. Attention was directed to the fact that all bills introduced at our request were passed and those bills which we opposed failed of passage.

At the first session of the House of Delegates adjournment was taken by a rising vote, in silence, in memory of our deceased First Vice President, Dr. G. C. Willson, Nevada.

Dr. C. A. Vosburgh, St. Louis, reported as a special representative of President Breuer on the conference held at Memphis, Tennessee, April 28, with the American Red Cross to discuss the flood situation in the lower Mississippi Basin. Dr. Vosburgh stated that there were representatives from Illinois, Arkansas, Kentucky, Louisiana, Missouri, Mississippi and Tennessee. Other organizations represented at the meeting were United States Public Service, American Medical Association, Medical Societies in Memphis, City of Memphis Health Department and State Health Officers in the flooded area. At the time of the conference it was shown that there were approximately 175,000 homeless refugees concentrated in emergency camps. Dr. Vosburgh promised the conference, in behalf of Missouri, a quota of 250 physicians if that number was needed.

Dr. Fred Bailey, St. Louis, Medical Representative of the Red Cross at St. Louis, at a later meeting of the House of Delegates, explained the further needs of the Red Cross in the work of relieving the refugees and asked that members desiring to volunteer for the service send their names to the office of the Secretary of the Association.

Dr. Guy B. Mitchell, a member of the State Senate, called attention of the House to a resolution adopted by both branches of the General Assembly creating a commission to survey the state and investigate the needs of the crippled children of Missouri, and stated that such commission had been appointed. He also stated that the bill providing for hospital care and education of crippled children at the State University had been approved by Governor Baker and that the Governor had approved and released an appropriation of \$35,000 to enable the University to begin the work of providing for these children. A vote of thanks was ordered to be transmitted to Governor Baker and to the members of the Senate committee who approved the pas-

sage of the bill; also to Senator Michael Kinney who introduced the bill.

The Pettis County members were indefatigable in providing entertainment for the visitors and the preparation of facilities for conducting the meeting, having always one or more members on hand to make every one feel at home. The entertainments were most pleasant, the reception and dance following the addresses of the president and guests being well attended and the call for ladies as partners for the men visitors at the dance was over supplied. The sporting element among the visitors were highly entertained by the boxing match on Tuesday night and the numerous special parties filled out a series of entertainments that left no one neglected.

The dinner to Dr. A. R. Kieffer, contributed by some of his former students and friends, given at the Country Club, was a most enjoyable and delightful affair. It was indeed touching to hear the expressions of love, affection and respect of those who had learned the principles of medical practice under his tutelage and remained loyal to him throughout their career.

The dinner to the county society secretaries was by far the most enthusiastic and the most enjoyable of any that has ever been held. There were 52 guests including councilors, presidents and secretaries of county societies, and officers of the State Association. Dr. J. T. Hornback deserves great credit for having arranged for such a splendid meeting.

The invited guests of the Association were Dr. C. M. Rosser, of Dallas, Texas, and Dr. F. C. Waite, of Cleveland, Ohio, both of whom were present and delivered splendid addresses. Many of our members are acquainted with the work of these gentlemen and their presence with us added a very stimulating influence upon the members to continue in the labor of increasing the strength of our organization.

The total number registered at the meeting was 337, a few less than the number Dr. Ferguson had determined should be present, for he had made up his mind to bring the total to 400.

Columbia was chosen as the place of meeting for the 1928 session. Excelsior Springs had made preparations to invite us to meet in that city but through a misunderstanding as to the time when the vote was to be taken on this question their invitation was received after the invitation from

Boone County Medical Society had been accepted.

The adoption of the new constitution and by-laws required the election of an entirely new list of officers. These follow: President, Frank G. Nifong, Columbia. President-Elect, Frank I. Ridge, Kansas City. Secretary, E. J. Goodwin, St. Louis. Treasurer, G. W. Hawkins, Salisbury. Councilors: 1st District, O. C. Gebhart, Oregon. 2nd District, H. S. Conrad, St. Joseph. 3rd District, J. A. Crockett, Stanberry. 4th District, G. M. Bristow, Princeton. 5th District, J. R. Bridges, Kahoka. 6th District, J. S. Gashwiler, Novinger. 7th District, T. J. Downing, New London. 8th District, B. P. Stumberg, St. Charles. 9th District, A. R. McComas, Sturgeon. 10th District, D. A. Barnhart, Huntsville. 11th District, J. H. Timberman, Chillicothe. 12th District, Spence Redman, Platte City. 13th District, Geo. E. Bellows, Kansas City. 14th District, C. T. Ryland, Lexington. 15th District, L. J. Schofield, Warrensburg. 16th District, T. B. M. Craig, Nevada. 17th District, Guy Titsworth, Sedalia. 18th District, W. L. Allee, Eldon. 19th District, M. R. Aldridge, Jefferson City. 20th District, W. C. Gayler, St. Louis. 21st District, Thos. F. Estel, Altenburg. 22nd District, U. P. Haw, Benton. 23rd District, T. J. Rigdon, Kennett. 24th District, T. W. Cotton, Van Buren. 25th District, R. W. Gay, Ironton. 26th District, W. H. Breuer, St. James. 27th District, J. C. B. Davis, Willow Springs. 28th District, W. M. West, Monett. 29th District, R. M. James, Joplin.

Delegates to American Medical Association: G. Wilse Robinson, Kansas City, 1926-28; alternate, J. R. McVay, Kansas City. W. J. Ferguson, Sedalia, 1926-28; alternate, A. J. Campbell, Sedalia. W. T. Elam, St. Joseph, 1926-28; alternate, H. L. Kerr, Crane. E. P. North, St. Louis, 1927-29; alternate, R. A. Woolsey, St. Louis. E. J. Goodwin, St. Louis, 1927-29; alternate, Guy B. Mitchell, Branson.

THE MISSOURI SOCIETY FOR CRIPPLED CHILDREN

Almost everyone is interested in a crippled child and willing to give it some sort of a lift. Few persons understand how much the child needs and how long it will take. Few appreciate the magnitude of the problem.

On first thought it seems that the field

must be well covered, almost crowded, by the Shriners, the Rotary Clubs and the many other groups who have recently entered into this work. When we stop to think that there are between twelve and fourteen thousand crippled children in Missouri we realize that many more are being neglected than cared for.

The physician sometimes does not know what to do for them. Usually he has no place in which to do it. Often he cannot get the consent of the parents. At the last he cannot provide for the crippled child's education.

It is plainly someone's duty to care for these children. Private charity is not equal to the task on a state wide scale. It is plainly the duty of organized society, of the state, the county and the city.

Our hearts tell us that we ought to do it. Our heads support the impulse by showing us that it is the only sound economic plan. The support of the cripple falls on the relatives and usually later on the community. The loss of its services is an economic loss to the state. About half of the crippled children may be so restored as to be independent wage earners. About one fourth more can be made partially self supporting. Most of the remainder may be rendered much more comfortable and able to care for their persons although not able to earn their keep.

In St. Louis and Kansas City the problem is being moderately well cared for by private institutions built for that purpose. Social service workers, boards of education and various clubs and fraternal organizations help.

The Federation of Women's Clubs has for several years been devoting much energetic and unselfish work to the problem in the smaller cities and in the rural districts. They have discovered crippled children, procured transportation and escort for them, met them at trains and placed them in hospitals in St. Louis and Kansas City. The orthopedic surgeons give their services free. They are well accustomed to doing so and make no objection.

The hospitals also give free service. This is more difficult. Most of them have no endowment funds adequate to the demand and, where the money must come from local charity chests, there is soon objection to any large influx of children from a distance.

The needs of the crippled children of

Missouri cannot be met by these measures alone.

To solve this problem a number of county societies have been organized this spring. Last month their representatives met in St. Louis and organized a Missouri State Society affiliated with the International Society for Crippled Children.

The last legislature appropriated thirty-five thousand dollars to make a beginning at work for cripples in the State University hospital at Columbia. Still more important was the action of the legislature in appointing a commission of five to study the whole question and make recommendations at the next session. We are represented on the Commission by Dr. James Stewart, State Health Commissioner, Chairman of the Commission, Dr. A. H. Baldwin, of Pleasant Hill, Representative from Cass County, and Dr. Rex L. Diveley, of Kansas City. The other members of the Commission are Senator B. T. Gordon, Liberty, and Mr. Charles A. Lee, State Superintendent of Schools. The State Society and the Commission of the legislature are prepared to cooperate fully.

First, there must be a careful survey of the state. It is necessary to know the number of cripples, their financial status, what medical treatment is needed and what education is required. The members of the State Medical Association can be of the greatest assistance in this survey.

Not many new orthopedic hospitals are needed. Much of the work can be better and more economically done in the existing institutions. The state or county must pay the actual cost of maintenance of the child sent from a distance to these orthopedic centers.

There must be a number of convalescent homes. These are best located in the country close to some city to which there are good transportation facilities. The cost per child per day is less in such an institution and is a better place for the child who does not need further expert nursing or surgical attention.

There must be an adequate follow up system by which children are kept track of in their homes. The parents must be instructed in how to take care of them and checked up to see that they are doing so. Otherwise there are many relapses and the money already spent is largely wasted.

If you do all these things you have only half finished the job. The child must have a proper education. It must have manual

training. Careful study must be made to determine in what field the child can best make a living and it must be trained for that work. Such training may be begun in the convalescent homes. Then we will need special schools for crippled children, like the wonderful Spaulding School in Chicago, maintained by the Board of Education. Transportation to and from school must be provided.

Finally, the child approaching adult life must be placed in the job for which it has been fitted.

There is much work for everybody in such a program. We feel sure that the physicians of Missouri will be in the forefront in this movement as they have been in so many other good works.

MEDICAL RELIEF IN THE FLOOD DISASTER

When the enormity of the damage to life and property caused by the flood in the Mississippi Basin became evident, the American Red Cross called a conference at Memphis, Tennessee, April 28, and requested President Breuer to send a representative to the conference. Dr. Breuer appointed Dr. C. A. Vosburgh, of St. Louis, President of the St. Louis Medical Society and head of the local Committee on Medical Relief in Disaster, to attend the conference. Dr. Vosburgh's report following the conference will give our members a graphic conception of the immensity of the problem that confronted the Red Cross as realized at that time and therefore we present his comment in full. Since this report was received the conditions have grown worse and at this writing it is estimated that there are 250,000 refugees to be cared for. Dr. Vosburgh's report follows:

REPORT OF THE CONFERENCE ON DISASTER RELIEF,
MEMPHIS, TENNESSEE, APRIL 28

St. Louis, April 30, 1927.

Dr. Wm. H. Breuer, President,
Missouri State Medical Association,
St. James, Mo.

Dear Doctor Breuer:

Complying with instructions from your office I went to Memphis, Tenn., on the evening of April 27, 1927, to attend a conference held on April 28, 1927, to discuss the flood situation in the lower Mississippi Basin.

Representatives of the Medical Associations of the following states attended: Illinois, Arkansas, Kentucky, Louisiana, Missouri, Mississippi, Tennessee.

The conference was called by Dr. Redden, who was in charge of the Red Cross Unit supervising the relief and was attended by the following: Rep-

resentatives of the State Boards of Health and Sanitary Divisions of the above states; Presidents of the State Medical Associations; a Representative of the American Medical Association, Dr. Pusey, of Chicago; Representatives from the Surgeon General's office, Col. Jones and Major Lee; Miss Cox, Chairman of the Nursing Division of the Red Cross; Col. McMillan, of the Public Health Service; Dr. Redden, Medical Department of the Red Cross; Mr. Baker, General Field Executive of the Red Cross.

The composite report of the different State Health Departments shows that at the time of this conference there were approximately 175,000 homeless refugees who were concentrated in Emergency Camps. Some of these camps have more than 10,000 refugees at the present time. The numbers are being augmented from day to day.

While the emergency now is one of food and shelter, medical problems are arising and becoming more important day by day. War time experience has shown that when a large number of individuals are grouped in emergencies, infectious diseases always develop among them. Groups of this type are more dangerous owing to lack of food and proper shelter. The children particularly suffer from improper food supply—milk of good quality is hard to obtain.

Many of the towns and cities have had their water supply completely destroyed. This adds the problem of water purification. This is now being partially accomplished by the chlorin method of army routine. It is the plan to vaccinate all against small pox and to immunize against typhoid fever. Sufficient biologicals are available through the Red Cross, but there is need of trained personnel for its administration. Some of the states affected can supply sufficient funds and medical personnel to meet their emergency, others cannot.

When the local medical and relief organizations cannot function from any cause, the Red Cross will assume charge of the situation and will furnish both funds and personnel to meet the minimum requirements.

We were advised that the fund on April 28, 1927, for emergency relief totaled \$2,675,000.00.

The conference developed, by unanimous opinion, that the relief should be systematically organized. The organization suggested, roughly outlined, is as follows:

First: Local needs are to be passed upon and certified to by the local Health Unit. This information is to be transmitted to the State Health Organization and checked by the higher organization. If any need exists which cannot be cared for by the local organization, or through the state organization, upon request from the state organization the Red Cross will assume charge and direction.

Second: It is definitely understood that when the Red Cross assumes charge they are in absolute control of the situation and during the period of the emergency will assume the obligations until requested to discontinue by the State Department.

This seems a very logical method of organization. It will serve two functions:

First: To put at the disposal of the needy immediate funds and supplies.

Second: To supply a trained base organization who have had experience in similar conditions, and who can maintain the proper organization for relief.

Your representative assured the conference that while Missouri had approximately eight thousand refugees, we had sufficient medical personnel to care for those, and to supply doctors where needed in

those states in which the disaster had been greater than our own. It is understood that a request for physicians should come through the Red Cross and be transmitted through the state organization.

The St. Louis Medical Society has already appointed a committee known as the Disaster Relief Committee, who are busily engaged tabulating our physicians in an effort to determine those available in emergencies. Some are ready for service.

I am submitting an outline of the subjects which were discussed at the conference.

Very truly yours,

C. A. VOSBURGH, M.D.

SPECIAL HEALTH AND MEDICAL CONFERENCE,
MEMPHIS, TENNESSEE, APRIL 28, 1927

CONFERENCE REPRESENTATION LIST OF NAMES

- State Health Officers in Flood Area.
- Medical Representatives from Fourth and Seventh Corps Area, U. S. Public Health Service.
- American Medical Association.
- State Medical Societies.
- Medical Societies, Memphis.
- City of Memphis Health Department.
- 1. Conference opened by Henry M. Baker, National Director Disaster Relief.
- 2. Need for Conference and Outline of Program: Dr. W. R. Redden, Red Cross National Medical officer.
- A. Reports of State Health Officials on Present Conditions in Respective States.
- B. Outline of Program for Public Health and Sanitation Effective Throughout Emergency Period.
- 3. List of States: Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, Tennessee.
- 4. List of Subjects for Discussion:
 - Supplementary Service: Health Officers, Physicians, Sanitarians, Nurses, Supplies, Typhoid Vaccine, Smallpox Vaccine, Disinfectants, Medical and Surgical Supplies, Hospital Equipment.

SPECIAL PROBLEMS:

- Water Supply
- Sewerage and Garbage Disposal
- Milk Supply
- Mosquito Control
- Malaria
- Hookworm
- Diarrhoea and Dysentery—Especially in Children.
- Chronic Diseases—Tuberculosis
- Inspection of Regular Camps
- Hospitalization of the Sick in Refugee Camps in Regular or Temporary Hospitals.
- Hospitalization for Contagious Diseases—Including Smallpox, Measles and Others.
- Health and Sanitary Problems Pertaining to the Return of Refugees to Their Respective Communities.
- NEED FOR NURSES—IMMEDIATE AND PROSPECTIVE
- What the State is Now Doing to Meet Need—What the State Can Continue to Do to Meet Need.
- What the Municipal and County Health Officers are Doing and Can Do to Meet Need.
- Readiness of the Red Cross to Supplement Work of State, County and Municipal Health Appointments.
- Desire of Red Cross to Meet Minimum, at Least, Requirements of Health Officials.
- Medical Relief in Time of Disaster:
 - American Medical Association
 - Cooperation of Public Health Service.

THE POPLAR BLUFF DISASTER

With every sinew strained to meet the requirements of the emergency created by the flood in caring for the refugees, another disaster placed an additional burden upon the medical profession of the state and especially of St. Louis when the tornado at Poplar Bluff laid waste that city killing 85 people and injuring 300 others on May 9. Just as we are going to press information comes that the St. Louis Medical Society through its president, Dr. C. A. Vosburgh, Chairman of the Committee on Medical Relief in Disaster, and Dr. Fred Bailey, Medical Representative of the local chapter of the Red Cross, that physicians, nurses, interns and medical supplies have been rushed to Poplar Bluff to care for the sick and injured in that city.

The tornado destroyed an area of over 300 city blocks, the principal damage occurring in the business section. Hotels and schoolhouses collapsed, hospitals were damaged and the shortage of food supply became imminent. A report on the work performed by our members in this disaster will be published in the June issue.

ADVANCES IN MEDICAL SCIENCE IN MISSOURI

St. Louis is becoming the Mecca of a large number of medical visitors, not only from the United States but from many countries abroad. One of the attractions is the Chest Service at the Barnes Hospital. This Chest Service was established in 1920 under the directorship of Dr. Evarts A. Graham, Surgeon-in-Chief at the Barnes Hospital, and Dr. J. J. Singer, Associate Professor of Clinical Medicine. Some of the new ideas developed are: New methods of diagnosis of obscure chest conditions; new instruments for diagnosis, such as artificial pneumothorax apparatus; thoracoscopy; new methods of surgical procedure, such as diagnostic pneumothorax; injections of iodized oil into the lungs and treatment of pulmonary suppuration by the cauter. The General Education Board has given \$50,000 to the Washington University for the use of Dr. Graham and Dr. Singer to further this work.

The latest contribution to medical science in St. Louis has been the establishment of the Mallinckrodt Radiological Institute, for which the Mallinckrodt family has donated \$250,000 while the General Education Board has added \$750,000 more.

For the first time in the history of St. Louis it will be possible for the hospitals connected with the Washington University School of Medicine to have adequate means of developing their knowledge along the radiological lines. Under the able directorship of Dr. Sherwood Moore, Director of the X-ray Department of Barnes Hospital, St. Louis can look forward to many new and valuable discoveries which may revolutionize our diagnostic methods and also which may establish a cure for many diseases which are now considered incurable.

With these enlargements of the facilities at Washington University comes the announcement that the St. Louis University Medical School has completed plans for a wide expansion of its facilities and has begun the construction of new buildings to meet the requirements of its enlarged program for teaching medicine.

The ideals of medical men working to further medical progress usually fall short because of the lack of financial means. The recognition of this fact has been responsible for many endowments given to the Washington University School of Medicine in the past. St. Louis has cause to feel flattered that its medical activities are sufficiently recognized to receive the financial support that is so necessary to further the progress of medical science.

NEWS NOTES

Dr. Harry M. Gilkey, Kansas City, sailed May 1 for Europe where he will spend several months in the clinics and hospitals of important medical centers.

A case of leprosy was discovered in St. Louis April 2 in a woman who was sent to the City Hospital supposed to be suffering from a non-infectious skin disease.

The Missouri Society for Mental Hygiene held a two day session in St. Louis April 4 and 5, at which a large number of prominent speakers, both medical and lay, delivered addresses.

Dr. Jonas C. Kopelowitz, St. Louis, who was compelled by illness to give up his practice during the past few months has fully recovered and resumed active practice. He has reopened his office at 730 Missouri Building.

Dr. W. G. Patton, St. Louis, was elected vice president of the Kansas City Eye, Ear, Nose and Throat Society at the meeting held April 22. This Society is composed of specialists living in Missouri, Kansas, Oklahoma and Arkansas.

Dr. J. J. Singer, Associate Professor of Clinical Medicine at Washington University Medical School, St. Louis, will sail for Europe June 17, on a tour of inspection of chest clinics in the various medical schools of England and the Continent.

Dr. Francis M. Pottenger, of Monrovia, California, will deliver an address at the St. Louis Medical Society Auditorium, May 31, under the auspices of the Trudeau Club, on "The Evolution of Early Tuberculosis and Its Recognition." Dr. Pottenger will also conduct a clinic at the auditorium of the Society on the afternoon of the 31st.

The preliminary report of the commission on medical education is now ready for distribution. Those who are interested in the general questions of medical education and practice should read this report. Anyone desiring a copy of the report can obtain it without charge by addressing, Commission on Medical Education, 215 Whitney Avenue, New Haven, Connecticut.

The Missouri-Kansas Neuropsychiatric Society met at State Hospital No. 2, St. Joseph, Mo., April 13. Dr. T. H. Romeiser presented a case of late encephalitis epidemica with a torsion spasm. Dr. H. O. Daniel read a paper on "Parkinson Syndrome Following Encephalitis." Dr. J. H. Parker, Superintendent of the hospital, presented a case of multiple sclerosis with spastic paraplegia. Major Edgar King, U. S. A. Disciplinary Barracks, Fort Leavenworth, read a paper on "The Commoner Mental Defects and Disorders and Their Detection in the Selection of Recruits."

The United Civil Service Commission announces that hospitals of the United States Veterans' Bureau and the United States Public Health Service throughout the country are urgently in need of technicians, senior medical technician (bacteriology), medical technician (bacteriology), senior medical technician (roentgenology), medical technician (roentgenology), and that applications for the positions will be received until the close of business on June 30, 1927. Applications will be

rated currently as they are received and certification of eligibles will be made as the needs of the service require. Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examiners at the post office or customhouse in any city.

The following articles have been accepted for New and Non-Official Remedies:

Abbott Laboratories

Abbott's Mineral Oil Emulsion

Ephedrine Hydrochloride—Abbott
Eli Lilly & Co.

Ephedrine Sulphate—Lilly

Pulvules Ephedrine Sulphate—Lilly,
0.025 Gm.

Pulvules Ephedrine Sulphate—Lilly,
0.05 Gm.

Ampoules Ephedrine Sulphate—Lilly,
1 cc., 0.05 Gm.

Solution Ephedrine Sulphate—Lilly,
3 per cent.

E. R. Squibb & Sons

Scarlet Fever Streptococcus Toxin—
Squibb, 1 cc.

Towt—Nolan Laboratory

Lactobacillus Acidophilus Milk (Towt)

Nonproprietary Articles

Ephedrine

OBITUARY



RESOLUTIONS IN MEMORY OF DR. ALBERT S. HERNDON

When upon March the first, nineteen hundred and twenty seven, death claimed Doctor Albert S. Herndon, the Platte County Medical Society sustained the greatest loss in the more than half a century of its existence. "Doctor Al," as we all loved to call him, had so endeared himself by his loyalty, purity of purpose and ethical treatment of his fellow physicians and his patients alike that his going left a void in our hearts that will long survive. Never have we had a more faithful member; ever it seemed the good of our society rose triumphant above any personal preferment. He will be greatly missed.

Dr. Herndon possessed many rare attributes. Naturally of a retiring disposition, when he spoke in our councils he commanded our most respectful attention, for he was learned in the lore of his profession, a man of ripe judgment and pureness of heart. "Doctor Al" was to the full an eth-

ical man; his treatment of his colleagues speak disparagingly of a brother physician. "Speak no evil" was his motto.

Dr. Herndon was justly much beloved by his patrons for he gave them the best he had learned, patient and faithful service. Perhaps theirs is the greater loss. 'Twas his loyalty to the Hippocratic oath he had never sullied, the effort to relieve suffering and save a life, even when he himself racked with fever and sick that was responsible for his untimely death. No wonder the little community he served loved him so and deeply mourn his loss.

"Doctor Al" as a country doctor, family doctor, lived up to the traditions and ideals of the profession he so much loved and by precept and example established a goal we shall strive to attain. Who can say his shall not be a golden reward?

What a heritage he has left his family! A true Christian character together with simple, faithful service to all of the little community where his life work was done endeared him in life and in death a sweet memory survives. Truly we sympathize with his loved ones, his wife, his son and his daughter, for we too loved him and offer this feeble tribute to his memory.

WILSON MURRAY,
R. P. C. WILSON,
SPENCE REDMAN,
Committee.

BOOKS FOR LEISURE MOMENTS

Every so often a new war story is written and each seems to be written from a different standpoint. Now comes Leonard Nason with "Chevrons" (Geo. H. Doran Company, New York). Mr. Nason has portrayed his view of the great struggle from the eyes of Sergeant Eadie, of the 79th F. A., the "rankest man in the whole outfit." That is doughboy language, for the "rankest man" means the man having the highest rank for a noncommissioned officer.

Sergeant Eadie fought, bled and almost died through the Marne and other great drives. His description of a drive is as follows: "It meant no food, no sleep for days on end, and fighting, fighting, all the time. It meant seeing men killed and lying down beside their unburied bodies to wait for the boche to tire of shooting machine guns and flares; it meant hunting infantry at night in black woods, alone." He did not shirk his duty and he fought with all the splendor of young Ameri-

can manhood. He, like the rest of the American doughboys, went willing to do his bit; and he only rebelled when he received gibes and sarcastic remarks because of the wound stripes on his sleeve showing he had been shell shocked. In those days gas and shell shock were not considered serious enough to mention. Later on when, back at the front without food or sleep for days and when exhaustion and pain almost overcame him, a doctor approached to take him off the field for "shell shock." * * * The words riled him and using all the strength he could muster he chased the doctor at the point of a gun. Never again would he be taken from the battle field for shell shock. The gibes and cutting remarks were too much for Sergeant Eadie.

One feels very bad when Eadie sees his pal shot down beside him. Jake, the pal, was a soldier boy that found a way into your hearts. Uneducated and uncouth, but with a brave soul, Jake tried to defend America for the sake of democracy and his death was the one great tragedy of the book.

One wonders if perhaps, the real Sergeant Eadie had not been waiting for a real good chance to get back at some of the overbearing officers and the head nurse in the base hospital. No doubt he expressed the opinion of hundreds of other boys who had a grudge against a superior officer and who vowed vengeance when they got out of the army. Throughout the book you will find the warnings of gray-haired officers to some of the unpopular "shavetails" to watch their step on the battle field for a bullet could come from a doughboy as well as a Hun and no one would be the wiser as to how the officer died.

Of course, the head nurse comes in for her share of the tirade, but the reader feels genuine sympathy for the medical corps. They were handicapped with very little equipment. The base hospitals as described in the book were little more than hovels, while the doctors and nurses worked overtime caring for the wounded. Conditions under which operations were performed must have been heart-rending to the doctors as well as to the patients. The head nurse was just about as popular as the second lieutenant, but she was only one, and there were other nurses who tried to make up for her deficiencies.

The last of the book finds Sergeant Eadie with two wound stripes on his sleeve, but just before he starts for home he rips them off for, he says, "the whole outfit knows I was wounded. All you get by wearing wound stripes is a lot of cheap conversation."

It has been said that "Chevrons" is the best

war story to date. That may seem a broad statement, for "Chevrons" was not written from a technical standpoint; it will not have historical value and it was not written by one of the great war lords. It is simply the story of the war as told by a soldier,—but who could better write the story of the Great War than one of our own American doughboys.

* * *

Booth Tarkington is still a writer of the old school. Mr. Tarkington has often spoken disparagingly of the younger writers of today who hold their characters so critically before the public gaze. He tells us he loves his characters too much to let the world know all about the innermost workings of their souls.

In his new book, "The Plutocrat," (Doubleday, Page and Company, New York), Mr. Tarkington makes us acquainted with Mr. Tinker of "Somewhere near Chicago." He almost breaks over in his description of Mr. Tinker and we almost feel a touch of "Babbitt." There is just a touch of the Lewis satire and so faint a touch we can hardly notice it.

Mr. Tinker has made a great deal of money and with his wife and daughter starts out "to see the sights across the ocean." A Mr. Lawrence Ogle, a playwright, also crosses on the same boat. Mr. Ogle is a highbrow of the type found in New York. A successful play has sent him up a notch or two. Here we have two types of successful men. One has more money than education while the other has more education than money. Mr. Tinker is good-hearted and well liked, while Mr. Ogle has never discovered he has a heart and he has no friends. He lives within himself because he does not care for the common touch. Mr. Tinker embraces everything and every one. Mr. Tinker and his family "get on the nerves" of Mr. Ogle while Mr. Ogle and Mr. Ogle's play are not liked by Mr. and Mrs. Tinker. Mrs. Tinker feels very immodest while trying to sit through the several acts of the play and Mr. Tinker is really very shocked, but Mr. Ogle excuses them on the grounds that they do not understand art. Mr. Tinker admires only successful business and sees success only in dollars, while Mr. Ogle writes for the few who really understand art. In the end Mr. Ogle lowers himself enough to fall in love with the Tinker daughter and, although he hates to tell New York that Mr. Tinker is his father-in-law, he does not find the Tinker millions and the Tinker prestige so bad.

You like Mr. Tinker and you dislike Mr. Ogle and of the other characters in the book you do not care enough about them to de-

cide whether you like them or not. You may not know it, but if you read Mr. Tarkington's book you will really like a plutocrat. They are not nearly so bad as the dictionary paints them and there is just enough of the Middle West American in you to get riled at the jabs of the New York Mr. Ogle.

* * *

"Napoleon, the Man of Destiny," (Boni and Liveright, New York), translated from the German by Emil Ludwig, deserves your attention for its historical value as well as the interesting story it tells.

The author attempts to show the real Napoleon through his speeches, letters, addresses and documents, making it rather unique but nevertheless a real biography. The author says: "Napoleon's life is a great epic written by the hand of Fate." And he goes further and says: "In this book I have tried to write the inner history of Napoleon. Since his personality finds expression in every step of his political career, his ideas as founder of states and as legislator, his attitudes towards revolution and legitimacy, towards the social order and the problems of Europe, are a valuable means of portrayal."

A person writing a biography would naturally try to bring out the "high lights" and dramatic moments of the individual's life, but in this book the character of the individual is shown through the events. We find more pathos in this story of Napoleon than in any other book written on the "Little Corporal" for through his letters we trace his affection for his family, his love for his country and the greatest sorrow of his life, his treatment by the British.

On the island of St. Helena we find Napoleon viewing his life, his mistakes and his folly. If he had only been content to rule France his life would have been different and at the last we almost hear him say: "No one but myself can be blamed for my fall. I have been my own greatest enemy, the cause of my own disastrous defeat."

* * *

And when you have finished reading Napoleon, just for comparison, read "Preface to a Life," by Zona Gale (D. Appleton & Company, New York.) The story concerns Bernard Meade, the son of a business man of Paugette, Wisconsin. Bernard, young and ambitious, wants to work in a warehouse in Chicago. His father wants him to carry on the lumber business that has been for genera-

tions the business of the Meade family. The struggle between the two ends in the father's death and Bernard returns to carry on the business. He gives up the woman he loves and marries Laura Hawes. In his home he is surrounded by two aunts, his mother and wife. The four women dominate the home and he falls into the rut that makes the story. His three children do not draw him out of it. He is slowly rotting in the town of Paugette, Wisconsin. One day an old friend drops in to see him. As it happens this friend has married the woman Bernard loved. Bernard's dull existence draws ire from his friend. In short the friend "bawls him out" but only succeeds in upsetting Bernard, for Bernard Meade has gone too far to turn back without doing an injustice to his family. Then the struggle for the readjustment starts.

The two books mentioned above show two different men in two different ages of history. One was born in Paugette, Wisconsin, and the other struggled up the ladder in France. Would Napoleon, placed in Bernard's shoes, have rotted his life away as Bernard did? It is hard to believe that Napoleon would, and one wonders if there was so very much of the great material in Bernard Meade. Would a man who had allowed four women and Paugette, Wisconsin, get the best of him have been much of a success in Chicago?

It has often been remarked that more lovers of outdoor life are found among physicians than in any other profession or walk in life. It has only been the opportunity of comparatively few, however, to take up the sport of 'big game' hunting. Among these Dr. Sutton, of Kansas City, is one of the most enthusiastic. Many of us recall his "African Holiday" and now we are privileged to read the story of his trip into French Indo-China and British India after tigers and elephants, with barking deer, seven foot lizards, sambhur (whatever it may be) and the like as a side line thrown in for good measure. It is a fascinating little account of his trip and one of the best illustrated hunting books it has been our privilege to read. To those of us who must take out our hunting with a day in the duck blind or to whom a holiday means a few weeks along a quiet trout stream, the book offers a real thrill. No one with a drop of red blood in his veins but will be better off after an hour or so with Dr. Sutton's "Tiger Trails." (Mosby & Co., St. Louis.) B. S.V.

MISCELLANY

DID YOU BUY?

Representatives of the Better Business Bureau accompanied by police officers recently stopped and interviewed three men driving a new Studebaker sedan bearing Ohio license number 52642 in St. Louis. The men, who were evidently of Scotch extraction, wore uniforms and caps similar to those worn by petty officers in the merchant marine service. The rear of the car was piled high with rugs and furs.

Questioning developed the fact that the men were attempting to get peddlers' licenses from the city. When asked about the uniforms they stated that they occasionally served in the merchant marine in the summer. Papers which they displayed indicated that they were drifting from town to town peddling rugs and furs.

A letter from Joseph Gluck & Co., furriers of New York, mentioned shipping a so-called "seal" coat at \$40. A postscript advised that the company could furnish all the "seal skin" (?) coats wanted at \$35 each.

The men in the car stated that there are over 500 men working the same game throughout the United States.

Men dressed in uniforms of this kind have several stock schemes for disposing of their merchandise. Some state or insinuate that the goods are smuggled and therefore offered for a low figure. They depend on the excuse, as one of these men explained, that the man who bought smuggled goods was just as guilty as the man who sold them. Some tell that they have a leave of absence from their boat and are permitted to bring in and sell so much merchandise.

No matter what story is offered as an excuse to induce you to purchase furs, rugs, laces, etc., from peddlers masquerading as sailors, it is wise to refuse to purchase. Invariably the purchaser finds out two or three days after it is too late, that he has a rabbit skin instead of the seal for which he thinks he has driven a shrewd bargain. The rugs lose their appeal upon close examination.

The same class of merchandise can be purchased in any cheap store for much less than the peddler induces you to pay while you labor under the delusion that you are being offered a rare bargain.

HOW TO GET OFF THE SUCKER LIST

"There is one man in this community who has had his name taken off the Sucker list of some mail order houses that have been making a practice of sending out certain lines of goods to a man and telling him to either keep them and remit a dollar or return the goods," says the Better Business Bureau of St. Louis in one of their recent bulletins.

Not long ago this gentleman, a doctor by profession, received a box of neckties from two different sources with a letter accompanying them telling him to keep the ties and remit a dollar or return the package. Instead of following the instruction the doctor sat down and sent the same house a few pills, enclosing them in the letter and telling the receiver that they were recommended for 'gall.' He also told them that the value of these pills was two dollars, and that he would give the senders credit for the necktie bill of one dollar and all they would have to remit him would be the additional dollar.

After a while he received an acknowledgment of the pills which were returned, and was requested to return the ties. The doctor then replied and told the writer it was a half block to the nearest mail box and that he always charged \$2.50 for leaving the office, so if the writer would send the amount of two dollars and a half he would mail the ties back.

The correspondence was closed when the sender of the ties wrote and told the doctor that he had taken his name off their list.

This and similar stunts, such as sending out cards, initialed handkerchiefs to a select list with instructions to either keep them or send a dollar, has become quite prevalent. Frequently, the charity appeal is thrown in to arouse the recipient's sympathy. There must be enough of the 'suckers' remitting the dollar to make it pay for they continue to do it. If a few of the receivers of these shipments would do as the doctor did, they too would soon be taken off the sucker list.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1927

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Camden County Medical Society, December 31, 1926.
Holt County Medical Society, January 21, 1927.
Iron County Medical Society, March 4, 1927.
Madison County Medical Society, March 9, 1927.
Platte County Medical Society, March 15, 1927.
Dent County Medical Society, April 2, 1927.
Ralls County Medical Society, April 4, 1927.
Platte County Medical Society, April 7, 1927.
Atchison County Medical Society, April 9, 1927.
Chariton County Medical Society, April 15, 1927.

PROCEEDINGS OF WASHINGTON UNIVERSITY MEDICAL SOCIETY

One hundred and twenty-sixth meeting,
February 14, 1927

1. THE ETIOLOGY OF POSTOPERATIVE AND IDIOPATHIC EMPYEMA. —By DR. DUFF S. ALLEN.

Experimental and clinical studies were presented in which the relationship between hemothorax and empyema was considered. A total of 150 experimental observations was given in which contamination of the pleural cavities by various bacteria had occurred with and without an accompanying hemothorax.

In those experiments with marked soiling of the pleural cavity by injection of virulent streptococci and pneumococci through a needle and syringe, very few of the experimental animals developed an empyema. If, however, a small amount of blood was withdrawn from the same animal and injected immediately into the pleural cavity, empyema developed in almost every experiment.

Experimental thoracotomies in which but little blood was allowed to escape into the pleural cavities was seldom followed by postoperative empyema. Where a large amount of blood was allowed to remain in the pleural cavities after thoracotomies empyema followed the operation in the majority of the experiments.

Clinical studies were reported in patients who were developing idiopathic empyemas. In cases which were developing a streptococcus empyema, the earliest aspirations showed a bloody fluid. In cases of pneumococcal empyema, the earliest aspirations showed a greenish fluid. The green color, however, indicates the presence of blood since it is due to the methemoglobin which is derived from the red blood cells. There is evidence, therefore, that idiopathic empyema may be the result of a spontaneous hemorrhage into the pleural cavity which later becomes infected.

CONCLUSIONS

1. Postoperative empyema following intrapleural operations may be the result of hemorrhage into the pleural cavities which occurred during the operation.
2. In such operations hemostasis should be complete before and after opening the free pleural cavity.
3. Idiopathic empyema following or associated with a pneumonia may be ushered in by the occurrence of a spontaneous hemorrhage into the pleural cavity.

DISCUSSION

Dr. J. J. Singer mentioned the frequency of empyema following surgical operations in which the thorax was opened, and the necessity for more knowledge of the cause of this complication. He discussed the absence of conclusive evidence that the entrance of unfiltered air plays any part in causing empyema and cited several illustrative cases. The fact that some blood always gets into the pleura at operation indicates that if blood is a causative factor in empyema production the amount must be important. Apparently pleural irritation is usually accompanied by effusion into the sac, and such effusion follows for example handling the pleura at operation, or even the irritation by air after artificial pneumothorax. The presence of any considerable amount of blood also probably causes such irritation. He believed that although contamination by blood may play some part in empyema production the presence of bacterial contamination is the essential cause.

Dr. Duff Allen, in closing, called attention to the importance of a very careful aseptic technique in thoracotomy operations to prevent infection. He thought the experimental work indicates the necessity for keeping the pleura from contamination by excessive amounts of blood since this condition favors multiplication of bacteria which would be destroyed in small numbers by a pleural cavity free from blood.

2. DISPLACEMENT IRRIGATION OF NASAL SINUSES.—A NEW PROCEDURE IN DIAGNOSIS AND CONSERVATIVE TREATMENT.—By DR. ARTHUR W. PROETZ.

The procedure here presented is a simple method of introducing fluids into the sphenoid and posterior ethmoid sinuses. Heretofore, the irrigation of these sinuses has been rendered difficult by their positions and the inaccessibility of their ostia. Only occasionally can the normal opening of the sphenoid be used for the introduction of a cannula, while in

the case of the posterior ethmoid cells it is practically impossible. Perforating the sinus walls for the purpose of instilling fluids is dangerous; it is not always accurate, and it produces inflammatory reactions which defeat the essential purpose of the treatment.

1. The patient is placed in the supine position with his head projecting beyond the top of the treatment chair or table. The occipito-atloid joint is extended until the tip of the chin and the external auditory meatus are in the same vertical plane. This renders the sphenoid sinus with its ostium upturned the most dependent structure in the nasal chamber. A V shaped pocket thus occurs at the junction of the face of the sphenoid with the cribriform plate of the ethmoid.

2. The fluid to be introduced is now allowed to flow into the nostrils from a syringe and comes to rest in this pocket, submerging the ostia of the posterior sinuses. It does not enter the sinuses as their ostia are of insufficient size to permit the escape of the contained air.

3. Gentle suction (not more than 180 mm. mercury) is now applied intermittently to one nostril, the other being closed, the palate and tongue being held in the K position to seal the pharynx. Any of the ordinary vacuum appliances will suit provided that the degree of tension can be controlled. When the suction is first applied, a bubble of air escapes from the sinus through its upturned ostium. On releasing the suction this air is replaced by a drop of the overlying fluid. The process is repeated until the sinus is full; about a dozen alternations usually suffice to accomplish this.

4. The patient is returned to the erect position and the fluid remains in situ for an indefinite period (eight hours to several days.)

The low vacuum employed is insufficient to extract a bubble of air from the middle ear; hence, no displacement occurs and the nose may be filled with fluid without any danger of introducing it into the middle ear by this method.

DISCUSSION

Dr. J. J. Singer pointed out the great advance in the study of paranasal disease made possible by Dr. Proetz' work and the growing appreciation of this new method by otolaryngologists.

One hundred and twenty-seventh meeting, March 14, 1927

1. PRESENTATION OF CASES.

A. PREGNANCY IN A WOMAN WITH MYELOGENOUS LEUKEMIA.—By DR. T. K. BROWN.

This patient was reported at the regular meeting of the Washington University Medical Society, December 13, 1926, as a case of myelogenous leukemia and pregnancy. Upon discharge from Barnes Hospital, December 22, the leucocytes were 82,000. She did not return to the O. P. D. at the proper intervals as directed but finally because she felt so miserable came back on February 4, 1927, and was sent into the hospital.

The leucocytes were 112,000, spleen was 31 cm. and liver 11 cm. below the costal margin. An open plate of the abdomen showed the fetus to be lying in a transverse position with the head in the right flank. Fractional doses of X-ray over the long bones and thorax, advised by Dr. Sherwood Moore, were started and then discontinued because no fetal movements were felt. The leucocytes had gradually increased to 167,000 at the time the treatments were stopped February 21, 1927.

Three days later fetal movements were again noted; the fetal heart was heard; the patient had begun to gain weight, and the uterus had increased slightly in size. It was also noticed that the spleen had decreased to 25 cm., and the liver to 9.5 cm. below the costal margins. The leucocytes were 175,000. X-ray therapy was started again. The white cells dropped to 152,000 over a period of two days and then gradually rose again to 202,500 on March 8, when the patient was discharged. The spleen at this time extended only 23.5 cm. below the costal margin and the liver 9.5 cm. The uterus was increasing in size normally, the patient was feeling much better and had gained in weight. The red cells had increased from 3,400,000 to 3,600,000 and hemoglobin from 60 per cent. to 75 per cent.

She has been instructed to return three times a week to the X-ray department for treatment. The leucocytes now are 160,000 and the patient's general condition is about the same as at time of discharge from the hospital, March 8, 1927.

DISCUSSION

Dr. Evarts Graham was of the impression that X-ray exposures cause developmental abnormalities in the fetus characterized by malformations and mental deficiency. If this is true he questioned the advisability of allowing the pregnancy to continue.

Dr. Richard Paddock stated that monstrosities have followed the X-ray radiation of the pregnant uterus. The interruption of pregnancy after 20 weeks, however, is attended by greater risk to the mother than delivery at term, and for this reason no operative interference was justified.

Dr. Frank P. McNailey pointed out that since there is no certainty of the fetus being a monster it is in the interest of the child not to interfere with the pregnancy.

B. A PATIENT WITH ANGINA PECTORIS MUCH RELIEVED BY PARAVERTEBRAL INJECTIONS.—By DR. LEE D. CADY.

This patient had his initial attack of cardiac pain about two years ago. It began with excruciating pain in the upper abdomen, nausea, vomiting and prostration which required morphine for relief over a period of two days. Subsequent recurrence of pain has been in the lower substernal region with pain radiation into the back and the left arm. Since May, 1926, he has been unable to walk more than 150 feet without the return of pain requiring nitroglycerin for relief. Frequently the pain would start after meals without exertion. There are no remarkable cardiac or aortic lesions demonstrable by ordinary physical examination, X-ray or electrocardiograms. The blood pressure has ranged from 100/70 to 110/70 and the pulse has usually been slow.

Five weeks ago the hyperesthesia and hyperalgesia were outlined over the left side of the thorax and found to be included in the fourth, fifth and sixth skin segments. Without preliminary morphine administrations the third, fourth, and fifth sympathetic ramus areas and the intercostal regions at the rib heads were infiltrated with novocain and followed by 95 per cent. alcohol injections. The original anginal pain recurred during the procedure but was easily stopped by nitroglycerin. As the fifth region was being injected, the patient had severe cramp-like pains in the costovertebral region with radiation to the upper abdomen. Soon there was a new constriction pain over the upper sternum in the already anesthetic area. Following the appearance of this pain, a burning pain occurred in the left side of the

neck and just posterior to the midportion of the clavicle. The patient then had all the other objective signs of a severe anginal attack which was promptly relieved by morphin and atropin given intravenously. The next morning he was able to walk four blocks with slight return of pain in the back. The sixth and seventh segments were injected and the following morning he walked six blocks without pain.

During the last month he has been doing his chores, transplanting shrubs, firing his furnace, carrying out cinders, etc. The slight pain recurrences in the back have been easily controlled by drops and he has invariably continued his exertion. On one day last week he walked 17 blocks without pain. The hypalgesia persists to its original extent. The pain is much relieved and he is planning to engage in some light work. He will probably need the injections repeated to give him complete relief.

DISCUSSION

Dr. David P. Barr pointed out that the onset in this patient was more characteristic of a coronary accident since the cardiac pain appeared suddenly, was accompanied by vomiting and persisted for two days. It was only later that the attacks became typical of true angina. The result of the alcohol injections has justified their use since he has been given a period of respite from pain. In the procedure there is some risk of puncturing the pleura and there is always some uncertainty of reaching the nerves by the injections.

Dr. Evarts Graham believed that section of the nerves was a safer procedure than the alcohol injections since the operation is without mortality and secures a more certain result.

Dr. Montrose T. Burrows questioned whether it was justified to conclude that the alcohol injections relieved true cardiac pain in this case since none of the cardiac nerves emanated from the regions injected. He suggested the possibility of the condition being a neuralgia of the intercostal nerves.

Dr. Lee D. Cady, in closing, quoted Dr. Ransom as believing that the proper procedure in such cases is section of the parasympathetics and also the posterior roots.

C. A PATIENT WITH TABETIC GASTRIC CRISIS RELIEVED BY PARAVERTEBRAL SYMPATHETIC INJECTIONS.—By DR. LEE D. CADY.

The patient is an advanced tabetic whose gastric crises had reduced him to a condition almost moribund. He had been taking a large amount of morphin and self-administered chloroform inhalations. It was difficult to elicit definite evidence as to whether his discomfort was predominantly pain or nausea. Obviously both were present, for frequent hypodermic injections of morphin were necessary to relieve the pain and vomiting.

An effort was made to block the spinal nerves supplying the organs and skin segments over the upper abdomen by the technique of paravertebral spinal anesthesia. After novocain was injected 3 c.c. of 95 per cent. alcohol were injected. A band of hypalgesia was produced. The next day pain was absent in this area but was present above and below. Most of the nausea had been relieved. In view of possible disturbance of respiration, attempts to impair the spinal nerves were abandoned and the alcohol was thereafter injected one or two centimeters anteriorly to the intercostal spaces and on the posterior portions of the bodies of the vertebrae. Care was exercised to guard against intrapleural injection of the alcohol. This injection of the regions

of the sympathetic rami was equally effective in eradicating the pain above and below the region first injected. It was necessary to inject the rami regions on both sides extending from the second to the eleventh thoracic spaces before he was completely comfortable.

His greatest problem has since been to be relieved of the morphin addiction and painful hemorrhoids. Just at present he is suffering from a distended neurogenic bladder. His morale is demoralized by all these things but at no time have his crises shown any tendency to recur during the five weeks since the injections of the sympathetic rami.

2. THE EFFECT OF A LOW CARBOHYDRATE DIET ON POSTOPERATIVE GAS PAINS.—By Drs. LEE D. CADY and N. A. WOMACK.

The best indication of the unsatisfactory control of postoperative gas pains is shown by the variability of the postoperative routines found in the leading hospitals. There seems to be no specific method by which this disturbing complication can be entirely avoided. Morphin, pilocarpin, eserine and atropin have not proved useful except for transient relief of discomfort. It is generally conceded that undue manipulation of the intestines will enhance the incidence and severity of gas pains. O'Keefe (1922) has shown that preoperative catharsis and postoperative glucose retention enemata are conducive to gas pains. There has been considerable work done on the origin of gas in the gastro-intestinal tract. As early as 1912 Woodyatt and Graham noted that there was a diffusion between the gases of the blood and those of the alimentary canal. Recently McIver, Benedict and Cline have reported their observations on distension resulting from air swallowed during and after anesthesia.

In this analysis the effect of gases originating from intestinal fermentation was studied. Over 80 patients were observed and complete data collected in 58. They were divided into three groups; a control group, those treated with a low carbohydrate diet and those given a low carbohydrate diet with two retention enemata of lactic acid milk. The patients were observed for 7 postoperative days and records made of their complaints and apparent conditions. The stools were studied for the presence or absence of *B. Welchii*. The control group of patients were given the Barnes Hospital postoperative routine diet of liquids including sweetened fruit juices and soft diet, etc., as soon as tolerated. The special diet consisted of citrous fruit juices sweetened with saccharin. As the diet was increased carbohydrates were restricted wherever possible. The third group of patients were given the same diet with two small retention enemata of lactic acid milk after operation.

It was found that the low carbohydrate diet markedly diminished the incidence of postoperative discomfort. Mild acidosis sometimes occurred but it could usually be ignored. A few patients were given intravenous injections of glucose. Because of the possibility of acidosis, this low carbohydrate diet is not recommended in patients with severe liver damage. The patients having abdominal pelvic operations followed by glucose solutions per rectum had somewhat more discomfort than the patients not having the glucose. The lactic acid enemata did not seem significant in relieving or increasing discomfort. It was noted that patients having *B. Welchii* in the stools did not have quite as much discomfort in any of the groups as those patients who did not have them. However Kendall's report (1926) does not

indicate that gas production is the chief source of discomfort in patients infested with *B. Welchii* and who have a relative carbohydrate intolerance.

DISCUSSION

Dr. Lee D. Cady mentioned that Dr. Kendall has found certain nervous manifestations such as nervousness when alone, gaseous distention after meals, apprehension and insomnia after midnight, etc., in persons who harbor *B. Welchii* in the intestine and believes that their toxins have some causative relation to these symptoms. Such persons do better on a low carbohydrate diet and on lactic acid milk.

Dr. Evarts Graham commended the investigation which was difficult to carry out on account of the varied intestinal flora. The indiscriminate use of glucose in his opinion caused much postoperative gas pains. Dr. Graham also pointed out the rather startling conclusion of McIver and his associates who attributed postoperative accumulation of gas to swallowed air. This was based on the finding of a high nitrogen content in the intestinal gas.

Dr. Harry Alexander felt that it was much more probable that the intestinal gas resulted from the fermentative action of *B. Coli* than that it was due to *B. Welchii*.

Dr. Lee D. Cady agreed with Dr. Alexander regarding the lack of influence of *B. Welchii* on gas production since those patients from whom the gas bacillus was isolated showed no more gas pains than those in whom it was not found. It is of interest that sodium benzoate has been reputed to inhibit gas formation not only in laboratory culture but also when given to patients.

Dr. Warren Cole agreed that the patients reported who were given low carbohydrate diet had lessened gas pains. He believed that the preoperative diet had a marked effect on the incidence of gaseous distention.

Dr. T. K. Brown mentioned that the substitution of tap water instead of glucose by rectum on the gynecological service had resulted in a decreased discomfort from gas.

3. THE MECHANISM OF THE RESPIRATORY WAVES IN SYSTEMIC ARTERIAL BLOOD PRESSURE.—By DR. PETER HEINBECKER.

An analysis of the literature on the pulmonary circulation fails to give one a clear conception of the manner in which mechanical changes in the thorax accompanying the respiratory act actually modify the pulmonary and systemic arterial blood pressures.

It is agreed by all that during inspiration blood flow from the right heart is augmented and diminished during expiration. Also it has been conclusively shown that during inspiration the pulmonary arterial blood pressure falls and during expiration it rises, the changes lasting throughout the particular phases when they are of normal duration. There has been marked variability in the results reported on the character of the respiratory waves in systemic arterial blood pressure.

The speaker found that there was invariably an immediate fall of systemic arterial blood pressure on inspiration and an immediate rise on expiration. These changes last throughout the respiratory phases of normal duration.

To study blood flow through the lungs and its

*From the Departments of Surgery and Internal Medicine, Washington University School of Medicine and the Barnes Hospital.

modifications by respiration the perfusion method was employed. It was found that the vascular capacity of the lungs was increased during inflation and decreased during deflation when negative pressure was employed to produce the inflation. The resistance to blood flow was greatest during expiration, least during inspiration. During the actual process of inflation the outflow of blood from the lungs was diminished because the increased capacity and lessened resistance of the pulmonary bed more than compensated for the increased arterial inflow. During deflation of the lungs there was an increased venous outflow because the contraction of the capillary bed actually squeezed blood out. These conditions held only when negative pressure ventilation was employed. The opposite conditions resulted from positive pressure ventilation.

It was shown that on the basis of these changes in the capacity and resistance of the pulmonary vascular bed the character of the respiratory waves in systemic arterial blood pressure could be adequately explained. They are the only essential factors in their production.

CRAWFORD COUNTY MEDICAL SOCIETY

The Crawford County Medical Society met at the office of Dr. W. J. Parker, Steelville, March 24. Dr. R. C. Parker acted as secretary in the absence of Dr. W. J. Parker who was unable to attend on account of illness. The meeting was well attended.

The president, Dr. R. P. Royse, Bourbon, called the meeting to order and welcomed the visiting physicians, Drs. McFarland, Barnard and Walter of Rolla Hospital, Rolla, and Dr. Dunnigan of Sullivan.

A very interesting paper on "Cystitis" was read by Dr. Dunnigan.

Dr. W. G. Henderson, Cuba, read an exhaustive and instructive paper on "Diabetes Mellitus," in which he made the treatment and care of that disease so clear that the proverbial "way-faring man" could not err therein.

Drs. Hume and Royse made many interesting comments on the articles of Drs. Henderson and Dunnigan.

Dr. McFarland addressed the Society on the relative value to mankind of the general practitioner and specialist.

Dr. Barnard gave a very interesting talk on the use of mercurochrome.

At the close of the meeting Dr. Dunnigan exhibited a veritable and authentic "madstone," which was a real curiosity to most of the members present.

The next meeting of the Society will be held at Cuba, June 23.

R. C. PARKER, M.D., Acting Secretary.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met in the Circuit Court Room of the Court House at Clinton, April 14. The following members were present: Drs. W. E. Baggerly, E. C. Peelor, S. A. Poague, G. S. Walker and S. W. Woltzen.

In the absence of a regular program, the members related experiences in the treatment of various diseases and informally discussed economic conditions.

S. W. WOLTZEN, M. D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The Jasper County Medical Society met in regular session, March 29, at the Joplin Y. M.

C. A. at 8:00 p. m. Members present: Drs. O. L. Alberty, J. W. Barson, L. C. Chenoweth, L. B. Clinton, C. C. Cummings, H. W. Dickerson, R. C. Lowdermilk, S. H. Miller, J. F. Morgan, R. E. Myers, C. T. Reid, G. K. Sims and J. L. Sims.

In the absence of Dr. S. A. Grantham who was to present to the Society graphic illustrations in the form of roentgenograms from his laboratory, representing his own individual cases, the meeting was given over to case reports.

Dr. Lloyd B. Clinton, of Carthage, reported a labor case of a chondrodystrophic dwarf, thirty-four years of age, married to a man of similar type. The family history on both sides of the couple represents one of individuals of normal size. The gravida came to Dr. Clinton about the sixth month of her pregnancy. The gestation period throughout was uneventful. Pelvic mensuration revealed a birth canal of such type that would not permit delivery through the normal route. The measurements were as follows: interspinous, 20 cm.; intercrystal, 26 cm.; intertrochanteric, 29 cm.; Baeudelocque, 15 cm.; conjugata vera, 6 cm. On account of these measurements a classical selective section was done at the eighth month, delivering a fetus of five pounds, two ounces. At six months the baby weighs eleven pounds and exhibits distinct evidences of growing into the type of its parents.

The secretary reported a labor case which, when he first saw it, had been in labor for thirty-six hours. The bag of waters had been ruptured prior to this period and in the interim the patient had been examined twice vaginally by another doctor with the ungloved hand and without any attempt at asepsis.

The patient was of an unusually obese type and it was impossible abdominally to make a diagnosis either of presentation or position. F. H. T. were 156 per m. and could be heard most plainly two inches above and two or three inches to the right of the umbilicus. Rectally, one could barely palpate the cervix which was soft and dilated to the extent of about 2 cm. The presenting part could not be reached. Weak uterine contractions occurred about every ten to twelve minutes and had been occurring at such intervals during the past thirty-six hours. The patient was seen at twelve hour intervals for three consecutive periods, and at each time morphin was given and rectal examinations made without being able to palpate the presenting part. At the two last examinations uterine contractions were strong and occurring every seven to eight minutes. And at the last examination the cervix was dilated to about 6 cm.

The patient was worn and quite nervous. Her temperature was 100.6. She was taken to the hospital where vaginal examination revealed a long, soft, easily dilatable cervix. The head was in the brim of the pelvis, the sagittal suture lying in the transverse. A No. 3 Voorhees bag was inserted and ballooned and expelled in about fifty minutes, after which dilatation of the cervix was practically complete, but not wholly effaced. F. H. T. were 180 per m. Uterine contractions had become weak. Because of these two latter conditions it was decided to deliver the patient at once. Ether anesthesia was administered. Dührssen's incisions were made at 10, 2 and 6. A left mediolateral episiotomy was

done. Kielland's forceps were applied and gentle traction made for one minute at three minute intervals for about ten consecutive times without being able to draw the head into the pelvis. F. H. T. became irregular, weak and dropped to below 100. Version was then resorted to, delivering an 8 lb., 14 oz. fetus in the next few minutes. The cord was around the neck and without pulsations. The baby showed no sign of life and we were not able to bring about respirations.

The incisions were repaired in the usual manner. Two hours later the patient's temperature was 102.6 and continued around this point to a degree higher for the following four days.

On the morning of the fifth day the patient complained of inability to hold her urine. Following catheterization and irrigation of the bladder, water was observed to come from the vaginal vault. Instillation of a solution of methylene blue into the bladder revealed a vesicouterine fistula, since the solution was observed to come from the cervix uteri.

Cystoscopic examination revealed an area of trauma in the region of the left ureteral orifice. A solution of sodium bromide was then instilled into the bladder and a roentgenogram made, but this threw no light upon the condition.

The temperature returned to normal the following day and persisted for three days, after which there was a chill with a temperature of 104. Her temperature returned to normal the following day and so remained.

Following the catheterization, a solution of argentide was instilled into the bladder daily for five consecutive days. The patient was discharged from the hospital on the fourteenth day with her urine still trickling from the vaginal vault.

One week after her discharge the patient reports that her urination is as normal as it has ever been and that she is quite sure that none comes from the vagina.

The discussion of the case reports elicited the usual interest, but it was decided, in the latter case, that nature had been unusually kind to both the patient and the accoucher.

Meeting of April 5

Jasper County Medical Society met in regular session at the Y. M. C. A. at eight o'clock, April 5. Members present: J. W. Barson, L. C. Chenoweth, S. A. Grantham, R. C. Lowdermilk, S. H. Miller, J. F. Morgan, R. E. Myers, R. L. Neff, G. K. Sims, J. L. Sims and R. A. Thornton.

Guest: Dr. Ralph Emerson Duncan.

Doctor R. Claude Lowdermilk reported a case of proteinosis,—asthma—from the pollen of hickory trees which, in the first interval of the condition, showed the typical hay fever symptoms. This patient he first saw and treated last year and exhibited an intense reaction from his treatment. Recently the doctor reinstituted his treatment of last year and reports most excellent results,—with a gradual remission of the symptoms and without any sensitization. He presented this case to show the variability which this particular type of case exhibits in the administration of protein therapy.

The meeting was given over to Dr. S. A. Grantham who presented roentgenographic demonstrations of the changes which occur in the joints. Three of these cases were illustrations in the feet of different individuals in which

there had been either a thickening about the joint or a spur formation caused in either case by ill-fitting shoes or irritation arising therefrom. He showed how he cared for these conditions, which was simple in its technic, and gave promise of no return of the condition in the feet by correcting the defect in foot-wear. Other conditions such as lordosis, coxavara, tuberculous spondylitis, several of each type, were shown. The doctor showed in detail how he cared for these conditions, emphasizing how infinitely necessary it is to get an early fixation in all tuberculous conditions and that this fixation should be in such position to give the greatest degree of usefulness as to function.

It is interesting to know that the convalescent period following Doctor Grantham's particular operations, especially those in fixation of the spine, is incomparably shorter and far less eventful than those of most other operators for similar conditions. This, it is admitted by those who have observed the essayist in his operative procedure, is due to a lack of trauma which, it must be admitted, is a contributing factor for an uneventful convalescence in any operative case.

The discussion which followed brought out very little of interest except commendation of Doctor Grantham's originality in his operative procedures and a comparison with that of other men of national as well as international repute in which it could not be questioned but that his methods were better than those of the men who had been mentioned.

Meeting of April 12

Jasper County Medical Society met in regular session, April 12, at the Y. M. C. A. at eight o'clock. Members present: E. J. Burch, L. C. Chenoweth, A. B. Clark, L. B. Clinton, S. A. Grantham, E. J. McIntyre, S. H. Miller, R. E. Myers, G. K. Sims, J. L. Sims.

Case Reports

Doctor Clark reported a case of a primipara, eighteen years of age, which when he was first called to see her, had had three convulsions and was then having the fourth. She was at term and having weak uterine contractions every ten minutes. The cervical os was dilated 2 to 3 cm. There was frequent emesis; F. H. T. were of normal rate and volume; cephalic presentation. The patient was hospitalized and good elimination by bowels and kidneys was obtained, following which the vagina was packed for about eight hours. Complete dilatation resulted during this time and a live baby was delivered two hours after the removal of the pack. The postpartum period was uneventful.

Doctor Grantham reported the case of a boy with an injury to an elbow in which the tendon of the triceps muscle had been torn from the olecranon process and the latter very considerably comminuted. The soft parts had been lacerated and sewed up. This visit to Dr. Grantham was several weeks following the injury and ankylosis had resulted with the arm in extension with retraction of the triceps tendon.

Under anesthesia the ankylosis was broken up. Then the olecranon process was smoothed, four holes bored through and the triceps tendon laced through these holes. The arm was put up

in such a position as to promise best future usefulness. In due time suitable passive motion will be instituted to prevent future ankylosis.

Doctor McIntyre, of Carthage, presented three cases of nephritis, each a definite clinical entity, giving in minute detail the history and physical findings, also the complete laboratory findings in each case.

The essayist discussed each of these cases at great length and showed conclusively what can be accomplished in each of the three types, as he classified them, even by the general practitioner and showing just what should be attempted in the matter of diagnosis and therapeutics.

The doctor gave us a complete account of Volhard's and Faar's methods of caring for these cases from both the medical and dietetic point of view.

The paper was so complete that little was left for discussion among the members of the society. He pointed out that the nephritides are definitely clinical conditions and not merely to be passed upon lightly as has been done for so long a period. In fact, it was agreed that each of us as physicians should be doing more for these cases than we are attempting and that the results obtained would be commensurate with our efforts.

Meeting of April 19

The Jasper County Medical Society met in regular session, April 19, at the Y. M. C. A. at eight o'clock. Members present: O. L. Alberty, C. M. Balsley, J. W. Barson, E. J. Burch, J. A. Chenoweth, L. C. Chenoweth, M. O. Coombs, C. C. Cummings, C. A. Hesselberg, H. A. La-Force, R. C. Lowdermilk, E. J. McIntyre, S. H. Miller, R. L. Neff, G. K. Sims, R. M. Stormont, R. A. Thornton, R. W. Webster.

Guests present: Dr. Marchbanks, Pittsburg, Kansas; Dr. McClellan, Galena, Kansas; Dr. Rush, Pittsburg, Kansas.

On account of there being two papers to be read before the society all case reports were postponed until the following meeting.

Dr. F. H. Rush, Pittsburg, Kansas, read a paper on "The Conduct of the Second Stage of Labor," defining that period of labor as extending from the time the cervix is completely effaced and dilated until the expulsion of the fetus. He stressed the importance of making a diagnosis of presentations and positions in each case so that if interference became necessary one would have an intelligent mental picture of what should be accomplished. He mentioned further that we should make use of every facility at our command to conduct labor in an aseptic and antiseptic manner so that the morbidity of the postpartum period may be reduced. He said further that frequent auscultation of the F. H. T. should be done during this stage, which enables one to diagnose more easily any signs of fetal asphyxia.

Relative to the time limit which should be placed on the second stage, Doctor Rush remarked that it should not be arbitrary and certainly the patient should not be allowed to go on to the extent of exhaustion. He said that 2 to 2½ hours without progress certainly should be sufficient indication for interference and that manual correction of malpositions should be done more often than they are, thereby conserving the strength of the mother.

As an important aid to the mother, as well as a prophylactic protection for the child, it was brought out definitely that episiotomy should be resorted to. Further, he emphasized the importance of using pituitrin sparingly and that it should be used only with full knowledge of its contraindications. Last, but not least, the essayist suggested that the indications and conditions for operative delivery should be conscientiously analyzed so that no harm may be done to either the mother or the child.

Following the discussion of Doctor Rush's paper which was entered into at great length by practically all those present, Doctor Howard E. Marchbanks, also of Pittsburg, delivered a most excellent paper on "Hyperemesis Gravidarum." He said in part that the physiological or normal vomiting of pregnancy when prolonged or untreated may result in starvation to a greater or less degree and that as this starvation progresses one of two conditions takes place in the blood, namely, the alkali reserve of the blood is either raised or lowered.

He stated that if the patient vomits all food, water and gastric secretions, the alkali is raised and an alkalosis results. If she vomits only food and water the alkali is lowered and an acidosis results. When either of these happen vomiting is then termed pernicious.

Relative to the treatment of this condition he said that in the beginning it is quite simple and consists of frequent feedings of carbohydrate (starch and sugar) food. If the patient vomits a meal she must take one to make up for it. Further, if an acidosis develops it is usually necessary to give glucose intravenously or under the skin or by rectum. If an alkalosis results then salt solution is given with the glucose solution. Doctor Marchbanks emphasized the fact that this method prevents many therapeutic abortions.

The paper presented by the essayist elicited a discussion which brought out in a definite manner many points that were of vital interest to the practitioner coming in contact with pernicious vomiting of pregnancy.

GEORGE KIRBY SIMS, M.D., Secretary.

PETTIS COUNTY MEDICAL SOCIETY

The Pettis County Medical Society met in special session at Sedalia on Thursday, April 21, in honor of our distinguished guest, Dr. Richard L. Sutton, of Kansas City.

The meeting was held in the Court House at 4:30 p. m., where Dr. Sutton conducted a skin clinic, examining and demonstrating about twenty cases. Following the clinic Dr. Sutton gave an illustrated lecture on "Cancer of the Skin." The clinic and lecture were very interesting and instructive and were greatly enjoyed by all members.

Previous to the clinic and lecture Dr. Sutton gave a talk at the Kiwanis Club luncheon. Many members of the Society attended the club luncheon as guests and enjoyed this talk.

At six o'clock a dinner was given in Dr. Sutton's honor at the Country Club with the following members present: Drs. W. T. Bishop, A. J. Campbell, F. B. Long, J. G. Love, D. P. Dyer, C. A. McNeil, F. R. Morley, C. B. Trader, J. M. Wilson, W. J. Ferguson, A. L. Walter, C. Bohling, M. P. Shy, J. W. Boger, E. F. Yancey, J. B. Carlisle and J. E. Mitchell.

Following this dinner Dr. Sutton gave an illustrated lecture on Tiger Hunting. This was an open meeting held at Smith-Cotton High School and was well attended.

The members of the Society are very grateful to Dr. Sutton for his visit. We are confident that every one enjoyed hearing him talk.

J. E. MITCHELL, M.D., Secretary.

RAY COUNTY MEDICAL SOCIETY

The Ray County Medical Society met in the assembly room of the Court House at Richmond, April 20, and elected the following officers for the year 1927: President, Grover W. Gaines, Rayville; vice president, C. B. Shotwell, Richmond; secretary, A. R. Remley, Richmond; treasurer, T. F. Cook, Richmond; delegate, R. L. Hamilton, Richmond; alternate, L. D. Greene, Richmond.

Congratulations were extended Dr. E. T. McGaugh, Richmond, on his appointment by the Elee-mosynary Board to the position of Superintendent of the State Hospital at Fulton, Missouri. Dr. McGaugh has enjoyed a lucrative practice here for many years. He is a true physician who practices his profession primarily for the services he may render his fellowmen. The Doctor is ethical in his profession, a skilled and competent diagnostician, honorable in his dealings and conscientious in his medical findings. The well wishes of this Society go with him.

R. L. HAMILTON, M.D., Secretary.

SALINE COUNTY MEDICAL SOCIETY

The Saline County Medical Society met at luncheon with the Auxiliary in the dining room of the Virginia Hotel, Marshall, March 16, at 12:30 p. m. Guests present: Miss Emily Albietz, principal of one of the Marshall public schools, Marshall; Drs. Richard L. Sutton and Austin B. Jones, Kansas City; Drs. J. H. Davidson and A. L. Miller, Gilliam.

After luncheon the ladies were invited to remain for the meeting and the regular routine of business was disposed of. The Society voted to eliminate the regular April session owing to the fact that the Tri-County Medical Society, composed of Lafayette, Cooper and Saline Counties, meets on that date.

Dr. R. L. Sutton delivered a most interesting address on "Skin Cancer," which was freely discussed.

Upon being informed by the president that Dr. David F. Manning was in St. Louis at the bedside of his son who was seriously ill, and who has since died, the Society voted to instruct the secretary to send Dr. Manning a message of sympathy.

H. R. CONWAY, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular meeting of the St. Louis County Medical Society was held in the Directors' Room of the Webster Groves Trust Company, March 9. The meeting was called to order by the president, Dr. H. N. Corley, at three p. m. The minutes of the February meeting were read and approved. Members present: Drs. W. F. O'Malley, A. W. Westrup, J. H. Armstrong, J. A. Townsend, L. W. Cape, Garnett Jones, O. D. Seabaugh, Horine Miles, D. Henry Hanson, H. N. Corley, Otto W. Koch, C. P. Dyer, John H. Sutter, Frank P. Knabb and C. C. Irick. Visitors present: Drs. Frank Gannt, T. C. O'Dell, Frank D. Gorham and John D. Hayward.

A communication from Dr. E. J. Goodwin, Secretary of the State Medical Association, was read concerning House Bill No. 123. The following telegram was sent to Senator Ralph regarding this bill:

"The St. Louis County Medical Society, in session today, votes unanimously to request you to use all your influence to push House Bill No. 123 as originally introduced, without amendment."

The scientific program was given by Dr. Frank D. Gorham, St. Louis, his subject being "Gastric Ulcer." The paper was illustrated by valuable lantern slides and X-ray pictures. The subject was well handled by Dr. Gorham and the Society was very much impressed by the points presented.

Dr. John D. Hayward, St. Louis, presented a case of polycystic kidney and demonstrated the specimen, a huge polycystic kidney, which he had removed at operation.

Dr. Frank Gannt's application for membership was presented by Dr. C. P. Dyer.

A transfer card for Dr. T. T. O'Dell, Maplewood, was presented by Dr. L. W. Cape.

The Membership Committee, Dr. Horine Miles and Dr. Cape, reported favorably on the application of Dr. O'Dell by transfer from the Lawrence-Stone County Medical Society and on motion Dr. O'Dell was elected a member.

Meeting of April 13

The St. Louis County Medical Society met in the Directors' Room of the Webster Groves Trust Company, Webster Groves, April 13, at 3 p.m. Members present: Drs. Irene M. Blanchard, H. N. Corley, D. Henry Hanson, Garnett Jones, J. H. Armstrong, C. P. Dyer, J. A. Townsend, F. P. Knabb, A. W. Westrup, C. E. Barnett, P. M. Bros-sard, Elmer O. Breckenridge, E. E. Tremain, Horine Miles and C. C. Irick. Visitors: Drs. Percy H. Swahlen, St. Louis, and A. W. Smith.

The meeting was called to order by the president, Dr. H. N. Corley. The minutes of the March meeting were read and approved.

A communication from the president of the Pettis County Medical Society, inviting the members of this Society to the State meeting at Sedalia, was read. Several members stated that they would attend the meeting.

A committee of three was appointed by the president to meet with the St. Louis Medical Society to propose amendments to the State Constitution and By-Laws.

Dr. Dyer, of the Entertainment Committee, informed us that the Society would give a banquet at Osage Country Club in the near future.

Dr. J. H. Armstrong extended an invitation to the Society to be entertained at his home in Kirkwood in June.

The scientific program was given by Dr. Percy Swahlen, the subject of his paper being "Some Interesting Obstetrical Cases of 1926." All present took part in active discussions and praised the Doctor for the information he gave us. Dr. Swahlen has a standing invitation to visit our Society at any date he may select. The paper was very much appreciated and Dr. Swahlen was given a vote of thanks.

CARL C. IRICK, M.D., Secretary.

W. E. Gatewood and C. W. Baldrige, Iowa City (*Journal A. M. A.*, April 2, 1927), report six cases in which the phenomenon of Arthus was noted. They are of the opinion that the frequency of Arthus' phenomenon may logically be expected to increase with the increased use of immune horse serum. The statement from most commercial biologic laboratories, as well as many workers in the field of immunity, that the amount of horse serum in toxin-antitoxin mixtures is too small to be sensitizing seems to the authors to be untenable.

WOMEN'S AUXILIARY

OFFICERS 1925-1926

President, Mrs. A. B. McGlothlan, St. Joseph.
 President-Elect, Mrs. W. M. Bickford, Marshall.
 Chairman of Organization, Mrs. Willard Bartlett, St. Louis.
 1st Vice President, Mrs. A. W. McAlester, Kansas City.
 2nd Vice President, Mrs. Archer O'Reilly, St. Louis.
 3rd Vice President, Mrs. M. P. Neal, Columbia.
 4th Vice President, Mrs. Wm. Spaulding, Poplar Bluff.
 Corresponding Secretary, Mrs. H. S. Conrad, St. Joseph.
 Recording Secretary, Mrs. M. A. Hanna, Kansas City.
 Treasurer, Mrs. C. T. Ryland, Lexington.
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HENRY COUNTY AUXILIARY

The Women's Auxiliary to the Henry County Medical Society met at the house of Mrs. G. S. Walker with the following members present: Mesdames Haire, Poague, Tarr, Walker and Woltzen.

Mrs. R. D. Haire was elected delegate to the meeting of the Women's Auxiliary to the Missouri State Medical Association.

It was decided to place a copy of Hygeia in each of the six schools of Clinton.

Mrs. Tarr gave us a very interesting talk on her experiences as a nurse during the Boer War in South Africa.

The home of Mrs. S. A. Poague was selected as our next meeting place.

Mrs. S. W. WOLTZEN, Secretary.

BOOK REVIEWS

PNEUMOCONIOSIS (SILICOSIS). A Roentgenological Study with Notes on Pathology. By Henry K. Pancoast, M.D. Professor of Roentgenology, University of Pennsylvania, and Eugene P. Pendergrass, M.D. Associate in Roentgenology, University of Pennsylvania. Paul B. Hoeber, Inc., New York. Price \$4.00.

This is the most complete volume on this subject and the best written work that has come to the notice of the reviewer.

The book shows the result of untiring work both in the presentation of their own cases as well as a thorough investigation of literature. As a matter of fact, I find this to be the only complete resume that has been published on this subject in this country.

I congratulate the writers. The book is an indispensable addition to a physician's library.

J. S. Y.

TRAITEMENT DES MALADIES MENTALES PAR LES CHOCs. Par C. Pascal, Médecin en Chef des Asiles publics d'aliénés de la Sein. Et Jean Davesne. Paper, 182 pp. Masson et Cie, 120 Boulevard Saint-Germain, Paris. 1926.

This is one of a series of monographs on recent methods of treatment in various branches of medicine. The author, who is chief physician of a public hospital for mental disorders, has treated her patients since 1920 by the induction of "colloidoclastic" shocks. The details of cases and report of results of treatment have evidently been published elsewhere.

The starting point of the author's theory is an observation of Joltrain that emotional shocks were followed by alterations in the vasomotor system and in the blood, analogous to the hemoclastic crises of Vidal. In other words, an emotional crisis seemed capable of altering the molecular state of the proteins. Coincident with this, a new psychic state arises and persists until the new colloidal condition is reversed. Most of the psychoses, including epilepsy, psychopathic constitutions, paranoia as well as the cyclothymic and schizoid groups are considered as "psycho-colloidoclastic."

The treatment is an effort to reverse the colloidal charge by introducing foreign substances into the body. It may be used, too, in a prophylactic way to prevent a colloidoclastic crisis. Eight methods or agents for producing these effects are described. They are: Induction of emotional shocks; spontaneous protein shocks brought about by infectious diseases, suppuration and traumatism; artificial production of fever, as by malaria or tuberculin; shocks produced by peptone, colloidal metals, nonspecific vaccines, etc.; leucocytotic agents, nucleic acid, induced abscesses; serums and blood; shocks by use of glandular substances; shocks by physical agents, radio active and chemical.

To one who has not been living in the stream of French medical thought, this subject seems extreme and one-sided. The book deserves careful reading, not only for its strength and clearness but also for its fascinating interest.

E. T. G.

THE NORMAL CHILD and how to keep it normal in mind and morals. Suggestions for parents, teachers and physicians; with a consideration of the influence of psychoanalysis. By B. Sachs, M.D., New York. Paul B. Hoeber, Inc. New York. 1926. Price \$1.50.

An interesting book of helpful suggestions to those who would help the child. Stress is laid upon the responsibility of developing useful men and women and building up a fine citizenship.

The author believes it well to keep fear and tales of evil away from the child and dwells upon the danger from the newspaper. "Once it has learned to read, the headlines of the daily newspaper will do mischief enough. In more ways than one, our dailies are a menace to the young." He warmly commends the Boy and Girl Scout movement. Most entertaining is the chapter on "The evils of psychoanalysis," tending to disprove the Freudian doctrines. "The idea that the sex factor is the sole guiding factor and the sole emotion in man's life can be denied by the experience of hundreds of honest, sober-minded, capable men and women."

N. J. H.

OUTLINES OF COMMON SKIN DISEASES. Including Eruptive Fevers. By T. Caspar Gilchrist, M.D., Clinical Professor of Dermatology, Johns Hopkins University. Baltimore. The Williams and Wilkins Company. 1927. Price \$1.50.

The revised edition of this popular outline of the more common skin diseases, including eruptive fevers, is a useful guide to students desiring a pocket size ready reference work. Each disease is separately discussed and the diagnosis and treatment briefly but adequately outlined. The author classifies the conditions both according to the initial lesion and the characteristic site. There are several lists of rules useful in the differential diagnosis of ulcers, alopecias, the eruptive fevers and general skin diseases. The photographs are unfortunately small and lack the detail necessary for students.

N. T.

SELF-CARE FOR THE DIABETIC. For the Use of Diabetic Patients. By J. J. Conybeare, M.C., M.D. Oxon., F.R.C.P. (Lond.) Assistant Physician to Guy's Hospital. Oxford University Press, American Branch, 35 W. 32nd Street, New York City, N. Y. Price \$1.15.

Like all the medical works of our English confreres, this little effort is instructively simple. The author's introductory remarks pertaining to increase of diabetes in the United States as due to our lavish sugar and starch consumption are perhaps true. It is not unlike the little books for patients that many of our writers are placing before us for our endorsement. However, it is to the point and simply told.

L. H. B.

A PRIMER FOR DIABETIC PATIENTS. A Brief Outline of the Treatment of Diabetes with Diet and Insulin, Including Directions and Charts for the Use of Physicians in Planning Diet Prescriptions. By Russell M. Wilder, M.D., Section on Nutrition, Division of Medicine, Mayo Clinic. Third Edition, Reset. 12mo of 134 pages. Philadelphia and London: W. B. Saunders Company, 1927. Cloth, \$1.50 net.

Like, and unlike, many of those little books in diabetic instruction to diabetics, the last fifty pages of diabetic menus appeals. Also the care of acidosis and gangrene are truly helpful. The detection of sugar and diabetic acid commends it.

Wilder eliminates all medical phraseology so distracting to the patient and nurse. The simplicity makes his book fascinatingly interesting. L. H. B.

RELATION OF VITAMIN E TO IRON ASSIMILATION

The work reviewed by Nina Simmonds, J. Ernestine Becker and E. V. McCollum, Baltimore (*Journal A. M. A.*, April 2, 1927), suggests that the function of vitamin E is in some manner associated with iron assimilation. The death of the fetuses in rats on diets deficient in this vitamin is due to a crisis in their iron assimilation, which can be obviated by providing the vitamin E in appropriate amounts from the beginning of pregnancy. Ferrous sulphate is harmful to rats when included in the diet in amounts as small as 0.2 per cent. of the food mixture. It does not serve as a satisfactory source of iron for the rat, and when a salt mixture containing this compound is employed as the sole source of iron in the diet, the animals ultimately reach a condition

which is followed by a speedy decline in weight, marked enfeeblement and, in most animals, the development of ophthalmia which the authors have designated as "salt ophthalmia." There are two ways in which rats can be caused to recover from this crisis. One is by giving them wheat germ oil and the other is by replacing the ferrous sulphate of the diet by ferric citrate. Ferric salts are far superior as a source of iron to growing rats than are any ferrous salts yet examined. Liver fats contain vitamin E in considerable amounts, and liver contains much iron. The special value of liver in the diet recommended by Minot and Murphy lies in its content of vitamin E and of iron. This work offers a new interpretation for certain experimental data of other investigators who have attributed pernicious anemia to lack of vitamin A, and suggests a new point of view in interpreting the cause of sterility attributable to family nutrition.

MALARIA TREATMENT OF GENERAL PARALYSIS

Walter Freeman, Washington, D. C. (*Journal A. M. A.*, April 2, 1927), has examined the brains of fifteen paralytic patients who had been subjected to the malaria treatment. It seems that therapeutic malaria is followed rapidly by organization of the inflammatory exudate in the meninges and about the blood vessels. During the following months the exudates are resorbed and the glia and vascular tissue regress to a great degree. Finally, the cortical architecture is reconstructed by resumed cellular polarity and restored lamination and perhaps by thickening of the cortex. The ganglion cells of the cortex are more or less reduced in number. Fibrous glia beneath the pia and ependyma changes little. Spirochetes are not found. On the basis of these fifteen cases, Freeman says it may be prophesied that eventually the term recovery will come to be used for certain cases instead of remission. Except for some reduction in the number of neurons in the cerebral cortex and marginal fibrillar gliosis, the anatomic picture practically does not deviate from the normal, and the brain is evidently in satisfactory working condition, to judge from histologic appearances. The necessity for early treatment is indicated by complete anatomic arrest without clinical improvement in a case of four years' duration before treatment.

DILATATION OF CEREBRAL BLOOD VESSELS AS FACTOR IN HEADACHE

C. D. Leaks, A. S. Loevenhart and C. W. Muehlberger, Madison, Wis. (*Journal A. M. A.*, April 2, 1927), suggests that dilatation of cerebral blood vessels may be the significant factor in the development of headache. In a series of sixteen anesthetized dogs, in which the meninges were exposed, definite dilatation of the pial vessels was observed within five minutes after the intravenous injection of from 1 to 5 cc. of 10 per cent. glyceryl trinitrate in 95 per cent alcohol. Measurements of enlarged photographs revealed an increase of from 14 to 40 per cent. (averaging 21 per cent.) in the diameter of representative vessels. The probable error in the measurement of these vessels was plus or minus 11 per cent. Subsequent injections into the same dog were usually without such marked results. As a control, the injection of glyceryl trinitrate into an animal was preceded by the injection of an equivalent amount of the solvent used (95 per cent. alcohol). This did not have a significant effect on the diameter of the vessels photographed.

DIFFERENTIAL DIAGNOSIS BETWEEN GASTRIC AND DUODENAL ULCER AND GALLSTONES

William D. Haggard, Nashville, Tenn. (*Journal A. M. A.*, April 2, 1927), says that the failure of the gallbladder to fill with the dye is the most important point in the diagnosis of cholecystic disease. Of almost the same value is the constant dimness or faintness of the shadow. This is due either to the interference of the entrance of the bile by a stone or to something that prevents the bile from being concentrated. Abnormally thickened bile will also produce a dim shadow due to the interference of the bile carrying the dye. Mottling of the shadow cast is usually due to stones. Gas in the colon will sometimes show under this and one should guard against this. Moderate delay of filling or emptying may have a significance. During the time the patient is being roentgenographed, food is not taken. Any variation from this is a source of error. In order to help matters, after the gallbladder should be visible a fat meal is given, and if the gallbladder is normal, it should be empty in two hours. Otherwise, cholecystic disease may be present. Usually the normal gallbladder will show on the plate at the end of the fifth or sixth hour. The most intense shadow appears from the sixteenth to the twenty-fourth hours. This shadow should disappear at the end of forty-eight hours. In a normal gallbladder the shadow should be largest at the fourth and eighth hours. This is due to the elasticity of the normal gallbladder. Thoroughgoing history taking, careful physical examinations and clinical clairvoyance have not been discredited by modern laboratory and roentgen-ray methods, and are still paramount in interpreting the available evidence in the correct diagnosis between gastric and duodenal ulcer and gallstones. The precious experience of mortifying mistakes makes diagnosis an alluring challenge, and reduces unavoidable error to the indistinguishable minimum.

AUTOTRANSPLANTATION OF TOE FOR TRAUMATIC LOSS OF FINGER

Joseph E. Fuld, New York (*Journal A. M. A.*, April 24, 1926), reports the case of a man, aged 30, who while operating a bread-slicing machine, accidentally amputated the distal third of the middle finger of his right hand. The wound being recent and clean, Fuld considered this a favorable opportunity to attempt grafting a toe to replace the missing finger. The day following the injury, he made an incision at the level of the head of the fifth metatarsal bone, transversely across the dorsum of the small toe of the right foot, deepened through, exposing the extensor tendon. This was cut across and the bone disarticulated. The incision was carried farther until the toe was left attached to the foot by only a pedicle plantar flap, consisting of skin subcutaneous tissue, plantar vessels and flexor tendon. The dorsal skin edge of the stump of the finger was freshened. The end of the extensor tendon was sutured to the distal end of the extensor tendon of the toe, and the dorsal skin edge of the finger was sutured to the distal dorsal skin edge of the toe. This necessitated complete immobilization of the parts with the hand in constant juxtaposition with the foot, which was done by properly placed adhesive plaster and gauze bandages. The patient was placed in a Gatch bed. The second stage of the operation was performed as follows: The pedicle flap was cut across transversely, exposing the flexor

tendon, which was also cut and sutured to the flexor which permitted flexion of the body to almost an upright sitting position. This gave a fairly comfortable position and relieved tension on the bandages. The cosmetic result was satisfactory, and sufficient function was obtained to permit the closing of the hand in complete flexion. Sensibility has partially returned. The color of the skin is practically the same as the color of the other fingers.

ESSENTIALS IN PREVENTION OF TUBERCULOSIS IN INFANCY AND CHILDHOOD

S. Adolphus Knopf, New York (*Journal A. M. A.*, April 2, 1927), asserts that the greatest danger of tuberculosis in the weak, predisposed, anemic or underfed child comes with the approach of and during adolescence. Prophylactic work in this group is particularly deficient. Long hours in badly ventilated class rooms, in college lecture halls, in stores or workrooms, and lack of recreation, irregular meals often insufficient in quantity and quality, and insanitary living in general, are mainly responsible for the development of tuberculosis in the adolescent. Provision for actively tuberculous children who are approaching adolescence is lacking. Boys and girls of that age cannot be kept in a preventorium for children or together in the same institution, and they are too young to enter institutions for adults. There is urgent need for preventoria or sanatoria for the adolescent child in danger of tuberculosis. Furthermore, a crusade against the fad of undernourishment is timely. Physical condition, also, should be considered in the choice of occupation for young people. A physical examination should precede the choice of any occupation for boys and girls. Annual periodic health examination for every adult and child is the greatest safeguard against the development of tuberculosis in children, and, therefore, the most effective means of combating tuberculosis in adults. The child of today is the man and the citizen of tomorrow. Education of the masses in the prevention of tuberculosis in the adult as well as prevention of tuberculosis in childhood, will ultimately lead to victory.

OCCURRENCE OF PARATHYROIDS ON ANTERIOR SURFACE OF THYROID GLAND

During a period of six months, 162 thyroidec-tomies were performed at the University of California Hospital. In twenty of these cases one parathyroid was removed, and in one case two parathyroids were removed. Raymond J. Millner, San Francisco (*Journal A. M. A.*, April 2, 1927), gives assurance that all but six of the twenty-one parathyroids were checked and proved by microscopic study of a small fragment. The six that were not checked were typical in every respect, and grossly looked exactly like those that were checked. In none of the cases did the patients develop any clinical signs of tetany. Studies are now being carried on with autopsy material. In approximately 10 per cent. of normal thyroids, one or more parathyroids lie on the anterior surface of the gland. In 30 per cent., one or more parathyroids are present on the lateral surfaces of the gland. The clinical significance of this work is self evident. With modified technic, leaving the lateral and part of the anterior capsule of the thyroid, approximately two thirds of the parathyroids now removed are saved. Parathyroids may be recognized at operation by their characteristic appearance and reimplanted.

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COMMITTEE } C. B. FRANCISCO, M.D.
M. A. BLISS, M.D.

ORIGINAL ARTICLES

LIPODYSTROPHIA PROGRESSIVA WITH OCULAR COMPLICATIONS*

J. W. CHARLES, M.D.

AND

H. S. LIGGETT, M.D.

ST. LOUIS

Progressive atrophy of the fatty tissue is characterized by a gradual emaciation beginning in the face and extending to the neck, arms and trunk as far as the level of the pelvis, and an increase of deposit of fat in the buttocks and upper part of the thighs, making a grotesque contrast in appearance. It seems to have been first described by Barraquer in 1905, followed by Campbell in 1907, and more exhaustively studied by Simons in 1911.

Most of the patients are young women or girls although Weber has reported finding ten cases in males. While the general health is usually good there may be weakness, lack of appetite and frequently nervous disturbance. In contradistinction to so called facial atrophy, other soft parts are not affected. The muscles stand out "almost as in a dissection." The bony prominences of the face are conspicuous and when the patient smiles the skin exhibits deep folds. "The fat of the orbit usually escapes."

Sprunt tells us that three theories concerning the etiology have been advanced: (1) a disease of the nervous system, a trophic neurosis; (2) an endocrine disturbance; (3) a disease of the adipose tissue itself. The advocates of the neurologic basis of the condition cite "the symmetry of the lesions, the analogy of other fat disturbances in cerebral lesions which do not involve the hypophysis or the epiphysis, the reported atrophy in the subcutaneous fat in the distribution of a diseased sciatic nerve, and the

alterations in the mammary fat on the affected side in certain cases of poliomyelitis."

In considering the endocrine system all authors "eliminate the gonads, a few consider the hypophysis seriously, quite a number have found evidence of thyroid disturbance," and an abnormal development of the pineal body has been suggested. The du-



Fig. 1. Patient at age of 14.

ration of life is not affected, other diseases having caused the death of the patients and autopsy revealing nothing of significance. Fat was present in the orbits, the pericardium, the abdomen and retroperitoneal tissues. There was no increase in the lipase of the blood, no lipemia, and no abnormality in the digestion of fat found in the stool after a heavy fat meal. In concluding, Sprunt tells us that one autopsy revealed infantilism in a boy 16 or 17 years old and a slight colloid change in the thy-

*Read before the American Ophthalmological Society, June 19, 1926.

roid. Another showed almost complete disappearance of the thymus in a twelve year old girl. One case was associated with precocious development of the genitalia and secondary sex characteristics. In the majority of cases the gonads were normal. Zalla found one cyst of the hypophysis while Weber's case showed the hypophysis normal. The basic metabolic rate was normal in some cases and definitely accelerated in Sprunt's and Smith's cases. Low blood pressure accompanied some of the cases, while Smith reported a marked hypertension.



Fig. 2. Patient at age of 16.

In spite of the accepted idea that attempts to fatten the patients result in deposition of fat only in the lower part of the body, Sprunt's patient was treated in a nursing home with a full and varied diet, with extra nourishment after meals, given massage three times a week, with small subcutaneous doses of sodium cacodylate daily, and made a gain of 11 pounds in 14 days. Under quiet and forced feeding at home she returned in 4 months closely approximating her normal weight and fat was undoubtedly added to the upper part of her body. She had been originally underweight 24 pounds, weighing 114 pounds when first seen with a height of 5 feet, 5 inches.

Smith's case was a 30 year old woman

who had arteriosclerosis, chronic nephritis, hypertension and a moderate thyropathy, as shown by the slight enlargement of the gland, rather prominent eyes, slight lid lag, tremor, acrocyanosis and accelerated metabolic rate. His examination of the skin is of interest: "The skin itself is normal in appearance in gross except that the subcutaneous tissue is loose and soft in texture, gray, and devoid of fat. * * * The epidermis seems to be normal. The epithelial cells are in a uniform layer with normal papillae of the corium and the normal arrangement of hair follicles. In one section there is a minute area in which the epithelium is somewhat pigmented, and in the interpapillary areas there are groups of pigmented cells. Elsewhere the corium shows no accumulations of cells except in one or two papillary projections which are infiltrated with mononuclear cells. Most of these cells are small lymphoid cells with no granules, but there are a few scattered eosinophile mononuclear cells. Everywhere through the corium in greater numbers than normal there are twisting and writhing elongated cells which appear to be wandering in the crevices of the connective tissue, especially about the blood vessels and sweat glands, but also about the sebaceous glands. These have a relatively small nucleus and an elongated cell body full of basophile granules (mast cells). The corium itself is not abnormal; the elastic tissue fibrils run in alternate directions in successive layers and are well developed. The hair follicles are normal in all respects as are also the sebaceous glands. They contain much doubly refractive fat in large and small globules, which shines with a marble like luster under the polarizing microscope * * * No fat is found in the upper layers of the tissue just below the corium and it is only in its deepest layers that one encounters several small groups of fat cells which are distended with fat globules. This stains brilliantly with osmic acid or sudan. It is not possible to distinguish which of the other cells about these and supplied by the same blood vessels are really fat cells, since none of them have any characteristic form and none contain fat droplets. The fascia does not seem to be abnormal."

The only pathological change then in the skin and tissues of the emaciated area is an almost complete disappearance of fat, except for traces around the hair roots and sebaceous glands. In the most emaciated patients suffering from other diseases, as

from tuberculosis, some fat can be found microscopically beneath the skin.

Spear inclines to the opinion that the condition is comparable to the muscular dystrophies, and if that is true we are dealing with an abiotrophy, or a condition which does not exist in the embryo but the possibility of which does exist in the tissue involved until such time as it shall become manifest. (We all remember the views of Treacher Collins regarding retinitis pigmentosa, etc., published several years ago.) "In all of these cases there is a gradual progression of the emaciation over a period of ten to twenty years, after which there is a spontaneous arrest."

Weber recorded the case of a boy 13 years old who was moderately fat until his eighth year, when he began to look thinner in the face although he looked and felt otherwise perfectly well. For three years there had been practically no fat in the face and neck except in the orbits. The arms and thorax were affected to some extent but in the gluteal regions and lower extremities the fat covering was fairly good. In 1913 the patient had undergone a radical mastoid operation on the right side and in 1916 a polyposus was removed from the right ear. There were no signs of disease and the urine was free from albumin and sugar. The aural infection might have been considered an exciting factor but according to the mother the fat atrophy had been noticed before the disturbance in the ear appeared. Weber also furnished the bibliography of the only ten cases which had been reported in males.

Herrmann was consulted by a Jewish woman, age 32, with a family history of complete absence of a similar condition, also no syphilis, tuberculosis, alcoholism, diabetes or nervous disease. Her health had always been good. The change in her face had begun insidiously when six years of age and at 11 years the fat of her face had almost entirely disappeared. Later the atrophy had spread to her arms and trunk. At 11 years of age she had been told by a well known New York physician that she was perfectly healthy. When she married at 22 years of age she weighed 98 pounds. After marriage the lower part of the body began to take on weight so that at 28 she weighed 117 pounds and 121 pounds at 31. She had not suffered in any way, the appetite was good, bowels regular, no disturbance of sleep, no palpitation or nervous symptoms. Of her two children, one was healthy and the other had chronic endocarditis following rheumatism.

She had had no miscarriages and was then pregnant for the third time. The face was haggard, hollow in the temporal regions, with the malar bones very prominent and below them two hollows, an upper small one and a lower large one, separated by a thin bridge corresponding to the zygomatic muscle, rendering the masseter more distinct and giving a fullness around the corners of the mouth. There were grooves under the lower lip and on either side of the chin. In smiling, folds formed on either side of the mouth. There was a marked reduction of the fat of the neck, arms and upper part of



Fig. 3. Patient at age of 29, ten years before onset of present illness.

the trunk with no disturbance of function or sensation. Hair, eyes, ears, nose, throat and teeth were all normal. There was no flushing, profuse sweating or chilliness. The breasts were well developed and unusually hard because of the loss of subcutaneous fat. Heart and lungs were normal. From the crests of the ilia downward there was a marked increase in fat, most distinct in the gluteal regions and upper part of the thighs, less distinct on the legs, while the ankles were normal. Muscles, tendon reflexes and sensation were normal, as were the blood and urine. X-ray examination of the arms and skull (sella turcica) was negative.

Herrmann was inclined to the belief that

the affection was a trophoneurosis. None of the patients has been benefited by administration of extracts of the ductless glands. Herrman also mentions the possibility of a poison in the blood which has a special affinity for the fatty tissue in the upper part of the body, but no one has yet injected monkeys with the blood of these patients to observe the effect, and it may reasonably be asked in what respect does the fat of the upper part of the body differ from that of the lower part in its affinity for poisons of the blood.

"In those cases which were treated no



Fig. 4. Profile view of patient at age of 46, showing the sinking of orbit.

disturbance of metabolism and no vasomotor or trophic disturbances were noted. Three hundred grams of grape sugar have been given without producing an alimentary glycosuria; no increase of lipase has been found in the blood; after the ingestion of 200 grams of 20 per cent. cream there was no lipemia; the blood serum obtained by puncture was clear. When large quantities of cream and butter were taken the feces did not show any marked change. Injections of pilocarpin produced moderate sweating while the pulse, respiration and intestinal peristalsis were not affected. The retention of normal function of the muscles excludes the various forms of muscular atrophy and dystrophy; the normal sexual

characteristics and the absence of ocular disturbances separate the condition from dyspituitarism of the Froelich type." In infantile atrophy the sucking pad of the cheek is retained, while in these cases it is absent. Also in children with pulmonary tuberculosis the fulness of the face may be preserved after the rest of the body is greatly emaciated.

Arthur Simons described his case as a "trophoneurose" in a singer, 21 years old, who had been treated 18 months for an "apex catarrh" and during the course of the treatment an emaciation had appeared and increased. After a year a bronze color of the skin was also noticed. The family history was good and when a child she had been well nourished, never nervous, usually quiet. She had menstruated since her eleventh year; she ate well and digestion and sleep were normal. She began to grow rapidly in her eleventh year and at that time the facial emaciation on both sides had begun and had increased slowly and equally over the arms and entire trunk. The patient often felt weak and cold in warm weather. Four years after consulting Simons and after the shock of the death of her father she for the first time had changes in mood with attacks of screaming.

The absence of fat in the face was so marked as to resemble a death mask and the patient in consequence lost her position, became melancholy and her activities were very limited. Five years before the mother had noticed that the buttocks had become much larger and the fat there increased so that she was asked if she wore a bustle. When seen by Simons there was complete absence of fat from the face, arms and trunk and a marked increase of fat in the gluteal region, and in the portion of the thigh neighboring to the pelvis there was a collection of fat so loose that it could be taken in the hands and moved in all directions. The part of the body devoid of fat resembled a dissection so that each muscle stood out and the origin, insertion and tendinous parts between might be exactly followed. The face looked like a death's head. The skin was not dry and it was everywhere elastic, without folds or wrinkles, and in the face it was of a peculiar gray, somewhat dirtier color, but never pigmented. The skin of the abdomen was light brown. Because of the underlying fat disappearance, the folds of the skin were coarser and the muscles firmer than usual. The flat breasts consisted only of glandular tissue over which the skin

could be easily lifted. The ligamentum nuchae and the spinous processes were very distinct. In no muscle was there the slightest failure of function and the nerves were normal, sensibility, tendon and skin reflexes lively. Physical findings after relief of the apex catarrh were normal. The thyroid could be felt. The urine was free from albumin and sugar. The blood picture was normal except that the hemoglobin was slightly reduced. Considering the loss of weight, the gas-exchange in repose was called normal. Oxygen consumption in two trials measured 213.5 and 206.2 cc. i. e., according to body weight 4.58 and 4.43: the CO_2 separation was 150.8 and 151.5 cc. The low respiratory quotient of 0.70 and 0.69 was somewhat striking. One can then fairly say that the fat disappearance is not due to disturbance of the metabolism and especially since the disappearance is not distributed evenly over the entire body.

In Barraquer's case the face was symmetrically emaciated, the skin was not rigid, was of normal elasticity and movable. The facial framework showed no asymmetry or atrophic change. The cranial nerves were normal, the thyroid normal in size, and the breathing and heart's action normal. The various forms of skin atrophy, e. g., scleroderma and hemiatrophy, were excluded. Barraquer believed that the sympathetic nervous system was connected with the affection.

The case of Pic and Gargere¹ was that of a youthful person in whom the muscle volume was diminished but without weakness. They do not say whether or not a mild tuberculous infection in the right apex was considered a causative factor. The nervous system and all electrical reactions were normal. The abnormally large pupil and tardy reaction to light which they mention has no special significance in view of the well known fact that apical lung infection may cause this disturbance through poisoning of the sympathetic.

The treatment of these cases offers many difficulties because the etiology is so obscure and because the disease is such a serious disturbance for the patient in the appearance of the face and in the difficulty in heat regulation from the loss of surface fat. The patients are cold even in hot weather and perspire little. Simons referred his case to Professor E. Hollaender who had only temporary success with a mixture of sheeps' tallow and fat boiled down from lipomata. He injected the cheeks with this

mixture and produced a marked cosmetic improvement.

REPORT OF CASE

Our patient was successfully treated in 1920 for a corneal ulcer by Dr. A. E. Ewing, who was kind enough to furnish us his notes on the case at that time. The ulcer was on the left cornea and it was noted that the lashes were mostly gone from the lids. She was wearing glasses then but no note was made of appreciable loss of orbital fat with sinking of the globes. Treatment extended from March, 1920, until January, 1921, when



Fig. 5. Front view showing especially the absence of the sucking pads and sinking of the orbits. Age 46.

she was sent to her home in the state with application for relief of chronic conjunctivitis.

The patient consulted us October 20, 1925, on account of an obstinate corneal ulcer which had been treated by her physician, Dr. Forrest Keeling, of Elsberry, Missouri, because her circumstances did not permit of her coming at once to the city. She was so emaciated that the right normal eye looked exactly like an artificial eye with unusually good motility. In fact, until the pupillary reaction was taken it could not be distinguished from an artificial eye, the conjunctiva being unusually pale and the sclera dead white. There seemed to be no orbital fat and the globes were so sunken that the palpebral fissure was only partially open and the patient stated that she was said to sleep with her eyes half open. There was almost complete absence of eyebrows and much fewer lashes than usual. The lashes of the upper lid of the left eye

were almost all turned in on the cornea although there was no scar tissue in the tarsus—evidently a lack of support by the globe and lack of tone in the lid. This entropion had caused a band keratitis across the entire width of the cornea and a small ulcer with hypopyon which readily healed under pasting up the lashes with contractile colodion and the usual applications. The vision of the right eye with Dr. Ewing's glasses was 23/19.

The general history was taken and the investigation of her general condition was conducted by Dr. Liggett, whose notes follow:

The patient was energetic but felt that her strength was below par. She did small housekeeping and helped her husband in truck gardening. She was rather emotional but well balanced in most respects. Her environment was more or less unpleasant largely because she lived under embarrassing financial conditions.

Family history. Father died at 74 from nephritis and her mother at 75 with what was called acute indigestion but which simulated angina pectoris. No one in her family had shown emaciation like the patient's and there were no chronic diseases suggested.

Past history. A mild smallpox infection was recalled in childhood and scarlatina shortly thereafter. She suffered with yearly sore throats and several attacks of quinsy until the age of 12 when these symptoms ceased. She had considered herself sound until the birth of her child 15 years previously; labor at this time was prolonged 48 hours with much suffering and finally there was a deep laceration and loss of the child's life, probably from a prolapsed cord. This was a great shock to her and she had never been well since. Menstruation had ceased one year before we saw her and there had been occasional hot flashes.

General present symptoms. There were occasional headaches, which seemed to arise from eye strain, and rare epistaxis. No sore throat but slight morning cough with mucous expectoration. The teeth were carious and had not received much care. No cardiovascular symptoms were noted. Appetite good. The diet was fairly well selected and had been adapted by Dr. Keeling to a chronic constipation which had troubled her for years; no pain, sourness, jaundice, etc. There had been nocturia for years but no edema, no polyuria and no thirst.

Present illness. In 1919, age 39, the patient had begun to lose weight, then weighing 130 to 135 pounds. At one time in her life she had weighed 159 pounds. She had lost slightly in strength and her weight had declined steadily to 111 pounds, at which point it had remained fixed. Coincident with the loss of weight her eyes had begun to appear sunken and her face thin. She had been irregularly under the care of her family physician from that time but the eyes had become gradually worse. The only constitutional symptoms were nervousness, irritability, and slight loss of strength.

Physical examination. Weight 111 pounds. Height 63 inches. Temperature 99. Blood pressure, systolic 130, diastolic 60. The face is markedly emaciated, aptly characterized as cadaverous, the skin is extremely thin and wrinkled although fairly elastic and of normal moisture and oiliness. The orbits are deeply sunken, the sucking pads of the cheeks entirely absent, the temporal regions hollow, while great hollows are present between the upper portions of the sternomastoid muscles and the angles of the mandibles. The hair of the scalp is scanty, the eyebrows almost absent. The larynx is prominent and the nuchal ligament conspicuous. On the trunk there is a continuance of the great thinness of the skin over the shoulders and half way to the waist line, the breasts hanging

pendulous and wrinkled and their glandular tissue palpable in firm nodular masses. The bony prominences are conspicuous and some modelling of the muscular structures is made out. The skin of the arms and forearms contains more fat but the hands are bony.

The pubic hair is scanty and a marked absence of fat is noticed in the mons veneris. The labia majora are thinner than normal but one gains the impression that the central fat body (corpus adiposum) is fairly well developed, while loss of substance appears to be from the subcutaneous fat alone.

The skin of the lower abdomen, hips and legs is smooth and elastic and beneath it is felt an ample development of the panniculus adiposus. From the waist downward the patient presents the normal picture of 45 or 50 years while the upper part of the body gives one the impression of the senile changes seen at 70.

There is no general adenopathy. The thyroid is diffusely full and soft. There is no tremor or flushing. The tonsils are full and cryptic and the fauces show some thickening and redness. The tongue is normal. The teeth show considerable pus at the gum margins and several carious fragments. The lungs are normal. The heart measures 11 cm. to the left and lies in a somewhat transverse position. A slight systolic shock is felt but there is no thrill. The first apical sound is long, the second aortic clear. Murmurs are absent. Rate 90, rhythm normal. The abdomen seems normal although a very marked voluntary spasm of the recti makes examination difficult. The uterus is slightly retroverted and the cervix deeply lacerated, but the adnexal regions are normal.

Laboratory examinations. Hemoglobin 90 per cent. Red blood cells, 4,800,000; white blood cells, 6,400. The differential count: polymorphonuclears 60 per cent., small mononuclears 35 per cent., large mononuclears 2 per cent., eosinophiles 2.5 per cent., basophiles 0.5 per cent. Blood N. P. N. 32.9; uric acid 3.9; creatinin 1.2; calcium 10.8; sugar 108. Urine: several specimens showed acid reaction, specific gravity from 1020 to 1031. One early morning specimen showed one plus albumin and one hyaline cast. An atypical reduction of Benedict's solution was found in one specimen with specific gravity of 1031, but subsequent examination of a specimen passed two hours after a heavy carbohydrate meal showed no sugar. Stool: normal consistence and color, no mucus, blood or pus, no parasites, and no unusual degree of undigested fat. The blood Wassermann and Kahn tests were negative. The electrocardiograph was normal but suggested a transverse heart.

The exact nature of the case was not then understood by us but it was thought that an endocrine disturbance associated with the menopause was the basis. Accordingly she was placed on $\frac{1}{4}$ grain of thyroid substance with 5 grains of ovarian substance three times daily. She was given oil and agar regularly for her bowels and also milk of magnesium as her constipation demanded. In addition to her fairly ample diet she was advised to take milk, cream and butter and also cod liver oil to provide fat soluble vitamins. After a few days of close observation she was returned to her home under the care of Dr. Keeling. Meanwhile a perusal of the literature revealed about 70 cases essentially identical with this one and bearing the name lipodystrophia progressiva given it by Simons in 1911. Only one case could be found with an absence of orbital fat and no mention was made of exposure keratitis.

The patient returned a month later having lost three pounds, and noticing that she was somewhat tremulous, and not enjoying her usual strength de-

spite her increased diet and improved gastrointestinal state. She was more emotional, weeping easily. The pulse rate was 100 and the bowels tended to looseness. The neck measured 31 cm. in its largest circumference. She was removed from thyroid substance at once although the ovarian extract was continued. Slight fine tremor of the fingers was then noted and all glandular therapy was withdrawn two weeks after her return. In spite of this she remained tremulous and a good deal of palpitation persisted for six weeks. After this period a basal metabolism revealed a rate of plus 50 per cent. (January 31, 1926) and she was put on iodides. It was evident that she had become toxic from the small doses of thyroid substance and therefore some degree of hyperthyroidism had been present from the first. Despite the high caloric diet and cod liver oil she had failed to gain weight.

On the 65th day after her return the patient contracted an acute follicular tonsillitis, which sent her pulse and fever high for several days, but recovery was complete. Dr. Selden Spencer made an examination of the nose and throat and reported: "Septum straight. Turbinates somewhat atrophied and rather pale (by no means an atrophic rhinitis). The fossæ are wide. No pus present or evidence of sinus infection. The postnasal space is negative except that the posterior ends of the turbinates are small. The larynx is negative. The tonsils are diseased and contain pus. Their removal is advised."

Because of the wretched condition of her teeth she was sent to Dr. W. L. Conrad who gave us the following report: "The patient presents with 14 teeth. Eleven show exostoses of the roots with pus pockets and absorption of bone, two crowns gone, two large silver fillings, and much marginal pus." All teeth were ordered removed.

After a few of the teeth had been removed every few days the attack of acute tonsillitis occurred, which suspended that treatment. The patient became quite irritable which is contrary to her usual disposition. Her strength was reasonably good, allowing her to be of assistance in the small tasks about the ward.

The neurological examination was made by Dr. Leland B. Alford and is reported as follows: "The patient says she has never been vigorous but is stronger and less nervous than formerly. She has had transient pains in the head but they are now absent. She states that it is rather difficult to get on a street car, perhaps because of a degree of muscular weakness. She experiences no tingling or numbness in any part of the body. The hands and feet sweat freely.

"On examination there is nothing particular in the patient's attitude or gait. The right pupil is round, regular and reacts normally. There is neither facial weakness nor sensory change in the area supplied by the fifth nerve. The tongue protrudes in the midline. In the arms the reflexes are present, moderately active and equal. There is no muscular atrophy or paralysis, no tremor, no ataxia. The knee jerks and ankle jerks are slightly increased but there are no abnormal responses. The abdominal reflexes are present. The patient answers questions clearly and accurately and there is no evidence of mental deviation of any sort. She denies being emotional and the nurses speak of her as a 'lovely patient.' There is no evidence of organic involvement of the nervous system nor of mental disturbance. It is the impression that the condition is a type of abiotrophy and has features in common with muscular dystrophy. The limitation of the process to the fatty tissues is no less remarkable than the atrophy in the upper half of the body and the hypertrophy in the lower half. The

law of distribution of abiotrophies has not yet been fathomed."

On April 17, 1926, the patient's tonsils were removed by Dr. R. J. Payne and she underwent the usual shock following such operations, the eyes remaining quiet until the night of April 23 when the left eye became very painful so that she could hardly sleep in spite of atropine and cocaine in oil with cold compresses. The next morning the entire cornea was hazy and there was slight hypopyon. Sodium salicylate, 20 grains, was prescribed intravenously in addition to the local treatment. April 25 the eye was better except that it became more painful toward late afternoon when the salicylate was given. Two days later she was quite comfortable.

On May 1 the general condition was much improved and she began to take short walks in the neighborhood. She was given permission to leave the hospital with instructions to have her remaining teeth extracted. The eye was again perfectly quiet and she was much stronger.

On May 6 the patient had two teeth extracted without special shock. There was constantly present a slight conjunctivitis which gave one the impression of being about to explode into a violent inflammation. This seemed to be caused solely by the difficulty of keeping the conjunctival sac clean.

The interesting features in the diagnosis are the typical distribution of the fat atrophy; the marked wasting of the orbital fat with preservation of the fat in the tongue, indicating that the orbital fat belongs to the subcutaneous rather than the deep; similarly, the wasting of the subcutaneous fat in the external genitals with preservation of the fat in the center of the external labia; also the climacteric and the coincident hyperthyroidism with its associated symptoms; and lastly, the presence of chronic foci of infection in the teeth and tonsils which cannot be overlooked as a causative factor in the hyperthyroidism.

In spite of the increased food intake, there has been no improvement whatever except that since her recovery from the overdosage of thyroid extract, she has gained moderately in strength. It is hoped that the remaining general symptoms will subside and that her general health will be improved by the removal of the foci of infection. We cannot hope for disappearance of the fat atrophy in the face and shoulders, because the usual result of forced nourishment in these cases has been only to add to the fat in the hips and buttocks and thereby increase the deformity.

The local treatment of the eye condition must remain expectant until the patient's general condition is perfect. The only possible surgical procedure would be first to perform an optical iridectomy on the left eye and then perhaps to try injection or implantation of the patient's own fat from the gluteal region so that the conjunctiva will

be filled out and more nearly normally kept clean by winking and eye movements. If such an operation proves successful on the blind side it might be attempted on the normal side, but one is loath to experiment behind the patient's only good eye.

Since the above was written a description of a case of absence of adipose tissue from the upper half of the body of a twelve year old girl has been found as far back as 1885, offered by no less an observer than Dr. S. Weir Mitchell. The author does not attempt any classification of the disease.

505 Humboldt Bldg.

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THE PARALYTIC TYPE OF EPIDEMIC ENCEPHALITIS*

G. WILSE ROBINSON, M.D.

KANSAS CITY, MO.

It is generally conceded that epidemic encephalitis is, relatively speaking, a new disease. Many clinical pictures are seen in this disease both in the acute and chronic stages that have not been previously observed. It is also conceded that epidemic encephalitis manifests itself by a great variety of symptoms. It has been truly said that syphilis can simulate any disease and modify all diseases. The same statement can, with perhaps a few exceptions, be made of epidemic encephalitis. Epidemic encephalitis is an acute mildly infectious disease which in many cases becomes chronic. The organism causing this disease has not been definitely demonstrated but there is an abundance of evidence that it is a most persistent guest and may continue its habitation in the human host for periods of many months or even years, in some cases lying dormant part of the time and in others persistently and continuously active in its destruction of essential and vital tissues, having special preference for tissues of the central and peripheral nervous system. No tissues of the body are safe from its destructive activities.

The varieties of this disease are many. It is my intention at this time to discuss briefly those types of the disease causing disabilities of the nature of motor paralyses. Lesions of epidemic encephalitis may appear at any level of the central or peripheral nervous system. It naturally follows then that such lesions may occur at any level of the pyramidal system or the peripheral nerves. Motor paralyses may occur independently of sensory disturbances or there may be sensory loss associated with the motor paralysis. The pathology of these lesions within the central nervous system are primarily, an acute inflammation probably followed by edema. This inflammation frequently involves the meninges giving symptoms of meningeal irritation or meningitis. The motor disability is usually primarily due to pressure from the ede-

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ma. The paralysis may be transitory in character clearing up entirely within a few days or weeks, or it may partially clear up leaving some residual paralysis. One characteristic point typical of the organism of epidemic encephalitis is its disposition progressively to attack tissues near or remote from the original point of invasion. This makes the prognosis in such cases extremely hazardous as it is not unusual for a patient with a primary cortical lesion of the pyramidal area to die eventually of respiratory paralysis due to an invasion of the brain stem. Again, I have had a number of cases who did not primarily have muscular paralysis but did have lesions of the midbrain involving the corpus striatum or locus niger, giving a Parkinson syndrome who after several months or years died of an acute bulbar palsy, demonstrating positively that the organism had remained continuously active finally invading the brain stem.

The levels of the central nervous system at which the lesions may occur causing paralysis are, the pyramidal structures of the cerebral cortex, the subcortical structures and the pyramidal tracts in the midbrain. In the latter region lesions of the extrapyramidal structures are very frequently associated with lesions of the pyramidal tracts. Lesions very commonly occur in the brain stem and at the base of the brain resulting in cranial nerve palsies which are the most common types of paralyzes. Lesions of the brain stem are in many cases rapidly fatal due usually to respiratory paralyzes. Lesions in this region may cause a pseudo or true bulbar palsy. Lesions of the spinal cord may occur at any vertical or transverse level; occurring in the dorsal tracts (posterior poliomyelitis) the symptoms resemble true tabes. There may be an anterior poliomyelitis with symptoms not unlike those of Heine-Medin disease. The lateral tracts may be involved exclusively giving paraplegia of the spastic type. The lesions may be disseminated as those of disseminated sclerosis. In some cases there is a localized transverse myelitis with an involvement of both the sensory and motor structures and sphincter disorders. Some of these lesions are temporarily disabling, others permanently so, but none of the lesions mentioned of the spinal cord tend to reach a fatal termination quickly excepting in some cases of ascending anterior poliomyelitis of the cord, the lesion extending into the brain stem quickly causing death.

There is a form of spinal lesion, however, of which I have seen several cases in which death is almost certain to occur and occur quickly. I refer to the ascending myelitis. In this type the terminal levels of the spinal cord are first attacked and the disease rapidly marches upward apparently wiping out the spinal cord as it goes until it finally reaches the brain stem, death resulting quickly.

The organism of epidemic encephalitis may attack the peripheral nerves producing a localized or general neuritis, in some cases apparently all of the peripheral nerves with the exception of some of the cranial nerves being involved. Some of the cases I shall report were seen personally during the acute stage and an opportunity offered for observing the progress of the disabilities from onset, others were not seen in the acute stage and in those cases it was necessary to make a diagnosis from the history given of the primary acute illness, the subsequent history and the conditions found at the time of examination.

It is a fact well known that it is quite the common thing for epidemic encephalitis to be diagnosed as influenza in the primary stage. In the last five years I have seen over one hundred cases of Parkinsonian syndrome, which is really one phase of chronic epidemic encephalitis, all of which gave a history of an acute illness preceding their present disability that were diagnosed as "flu" in about ninety per cent. of the cases. Extreme care should be taken about making a diagnosis of "flu" in cases with variable temperature or with no temperature at all, backache, headache, a slight tendency or a marked tendency to delirium, a general feeling of physical depression especially with sleep disorders, such as somnolence, wakefulness at night and sleeping in the daytime or inability to sleep at all for several days. Such cases are very likely epidemic encephalitis and further questioning may elicit the fact that the patient has had double vision, it may have been of but a few hours' duration.

REPORT OF CASES

Case 1. Male, 62 years of age; previously well. In August, 1925, had an acute illness of mild degree and brief duration which was diagnosed as "flu." In October had some choreiform movements of right hand. A few days later had some Jacksonian attacks of right arm. During following ten days had a series of such attacks; temperature very slightly elevated. Blood pressure varied between 150 and 160 systolic, 90 diastolic; spinal fluid cell count 40; pressure 125; otherwise negative; blood negative; urine

showed a few hyaline casts. During course of illness several spinal punctures were made, pressure did not vary more than a few points nor did the character of the fluid vary in quality to any appreciable degree from the original examination. About ten days after the beginning of the Jacksonian attacks right arm became weak and this gradually progressed to practically a complete paralysis. Approximately a week after the beginning of weakness of the right arm the right leg showed progressive weakness and slowly progressed to a state of almost complete paralysis but never completely. Paralysis spastic in character. During this time patient was somnolent during the day and restless at night, but mentally clear. At this time there was no aphasia and during the entire course of his illness there was no true aphasia, but during the later stages some dysarthria. Also during the entire course of the illness the temperature was variable, part time normal, part time slightly elevated, rarely going above 100.

Some three weeks after the onset of the paralysis of the right side there was evidence of improvement, all symptoms getting better and the paralysis receding with general all around improvement. This continued for approximately two weeks and then symptoms were observed of a beginning progressive paralysis of the left arm which gradually extended to the left leg. The face was lacking in expression; patient could be aroused for the administration of both medicine and food, answer questions but immediately after the stimulation ceased would fall asleep; when aroused, recognized members of family and friends. The paralysis on the left side was never complete in character and it, too, appeared to recede after a period of some three weeks. Late in January patient showed symptoms of dysphagia and respiratory difficulties. I saw this patient one to three times weekly during his illness but was not present at the time of his death. The attending physician stated he had apparently died of respiratory paralysis. Diagnosis, epidemic encephalitis with cortical edema, the chief lesion being in the midbrain involving the pyramidal tract, also extrapyramidal structures in region of striated bodies. The cause of death was an extension of the lesion into the brain stem causing respiratory paralysis. This case well illustrates the disposition of the organism of epidemic encephalitis to attack successively different areas of the central nervous system.

Case 2. Female, age 44, had a sudden attack of right hemiplegia resulting from an attack of epidemic encephalitis. Hemiplegia practically disappeared after a period of three weeks. A few weeks later had another attack and finally had a diplegia. The lesion then extended to the anterior horn cells of the tract giving a flaccid paralysis and atrophy of all the voluntary muscles of trunk and extremities. Patient died of respiratory paralysis after a period of five months.

Case 3. Male, 55 years of age, had an attack of epidemic encephalitis of mild degree with secondary hemiplegia; complete recovery after four months.

Case 4. Boy, age 9 years, was seen April 29, 1926. Five weeks previously had internal strabismus of left eye. A week later developed partial right hemiplegia; onset gradual with slight elevation of temperature; serology and blood

normal; some light attack of vomiting. At present time has made partial recovery; still has strabismus. Has regained use of leg but arm still continues disabled.

Case 5. Girl, 10 years of age. First symptoms were paralysis of left face coming on acutely; somnolent for a period of five weeks. Blood leucocyte count 17,000; spinal fluid 40, cells otherwise normal. Complete recovery after a period of three months.

Disability of the muscles of the seventh cranial are very common. Symptoms of ophthalmoplegias are so frequently seen in all types of epidemic encephalitis that they become almost constant manifestations. Disabilities of the laryngeal muscles and muscles of respiration, especially of the diaphragm causing speech difficulties, and respiratory disorders, are of common occurrence. I have seen numerous cases of both types.

Case 6. Male, age 35. In August, 1925, had an attack of acute illness diagnosed as "flu"; shortly thereafter observed difficulty in use of arms which seemed to him to be a general weakness. Later this disability extended to the legs. Came under my observation in October, 1925; had a definite flaccid paralysis with muscular atrophy of both arms and legs; symptoms typical of an anterior poliomyelitis. Complained of difficulty in breathing and swallowing with partial aphonia; face almost void of expression; partial ptosis of both eyes; hands zero on the dynamometer; tendon reflexes of upper and lower extremities abolished; no sphincter disturbance; no sensory loss. Condition gradually grew worse and atrophy increased until early in December when evidences of improvement were manifest. The improvement was fairly rapid. Patient returned home in March, 1926, and resumed his former occupation, continued to steadily improve until at the present time his condition is practically normal, although he is not as strong and has not the endurance that he had before the date of his illness. This was in my opinion a case of anterior poliomyelitis type of epidemic encephalitis with the most extensive lesions of any cases that I have seen of this type.

Case 7. The peripheral nerve types are not uncommon. I shall report but one case. A boy 16, in July, 1922, had an attack of acute illness which was called the "flu," headache, backache, a little elevation of temperature and a few days of double vision. He apparently recovered but a month later noticed a general weakness of all of the voluntary muscles. This condition continued until he became totally disabled, muscles began wasting away. Came under my observation in October, 1922. At that time there was rather an extreme atrophy of all the voluntary muscles excepting those supplied by the cranial nerves, double foot drop with contracture of the dorsal muscles of the legs. The legs were flexed upon the thighs to an extreme degree, contractures of the flexor muscles of the fingers with hyper-extension of the hands. There was no improvement until after a six months period of treatment. After a period of twelve months was able to walk with crutches; contracture of flexor muscles of legs to a considerable degree overcome. At present time is able to walk without the aid of crutches, still has some foot drop and some contracture of fingers and has some muscular atrophy, especially of the ventral muscles of legs and the intrinsic muscles of the hands.

The other voluntary muscles have practically regained their tone and are functioning with a fair degree of normality.

I have seen many cases of muscular atrophy but none so extensive and none so universally extreme as this case. All the voluntary muscles of the body were atrophied excepting those supplied by the cranial nerves and the intrinsic muscles of the feet. There was general sensory loss although apparently sensation was not as grossly disturbed as motility. This was in my opinion a case of epidemic encephalitis of the peripheral nerve type causing a general multiple neuritis. The cerebrospinal fluid and blood were negative.

In the cases reported syphilis was excluded, but we must not forget that a patient having syphilis may also have epidemic encephalitis, this disease being responsible for the disability rather than the syphilis.

Case 8. The ascending type of epidemic encephalitis. I shall report but one case. Female, age 22, had an attack of illness in August, 1920. Had headache, elevation of temperature, backache and was somnolent for a period of approximately three weeks; felt physically depressed; tired, weak and fatigued readily. October 18, had a slight elevation of temperature; became very nervous; had pain in back of neck, headache and generally prostrated. I saw her October 20, at which time she was semistuporous; complained of some numbness in her feet; neck slightly stiff; positive Kernig; knee kicks present but depressed; plantar reflexes abolished. Blood examination showed leucocytosis 15,000; spinal puncture done, fluid pressure 12; mercury clear; cell count 32, otherwise negative. Was first seen about seven p. m. and by five a. m. on the following day was unable to move feet or legs but could slightly flex thighs on trunk. Was conscious but semistuporous, all sensation of feet and legs apparently abolished; had a retention of urine; temperature approximately 100. The inflammatory process of cord rapidly ascended. Twenty four hours later all muscles of legs and trunk were paralyzed. Costal breathing had ceased. Inflammation had reached lower cervical segments and arms were partially disabled. Another puncture done, pressure about the same, character of fluid unchanged. She died about three p. m. of the following day after the destructive lesion had reached the level of the phrenic nerve.

In my opinion this girl had acute epidemic encephalitis in August which became subacute or chronic, finally attacking the spinal cord in the manner described. I have seen six of such cases and only one survived, this being a girl 10 years of age who had an attack of ascending myelitis which did not ascend beyond the lower cervical segments partially disabling the arms.

LESIONS AT LEVEL OF BRAIN STEM

September 1921, girl 10 years of age apparently well on Saturday accompanied her parents to town. Saturday night complained of some headache and was very nervous. Sunday nervous and restless. Monday, nervous, complained of headache, backache and was nauseated. On Monday was seen by a physician, temperature normal; general symptoms of nervousness; physician advised that she was hysterical. Seen about noon on Tuesday by the physician, child still complaining of headache and backache, very nervous and restless. I saw her at seven

p. m. Tuesday. Axillary temperature 100.5; blood pressure 150 systolic, 70 diastolic; pulse above 150; face slightly flushed and anxious; breathing rapid; plantar reflexes, Babinski positive; child somnolent but could be stimulated to consciousness. A spinal puncture was not done. A diagnosis of encephalitis of the brain stem was made. Child died at five a. m. Wednesday. I was not present at the time of death but from the description given by the physician it is my opinion she died of respiratory paralysis. Lesions at this level are usually quickly and certainly fatal.

There is no specific treatment for epidemic encephalitis. In my opinion the best treatment is salicylates and hexamethylenamin and arsenic intravenously, and in all cases where this disease is suspected active treatment should be instituted and continued over a considerable period of time. This treatment is helpful to the majority of those manifesting the paralytic types.

814 Medical Arts Building.

GLUCOSE IN THE TREATMENT OF EPIDEMIC ENCEPHALITIS

LELAND B. ALFORD, M.D.

ST. LOUIS

Epidemic encephalitis is a new scourge that has arisen amongst us since the influenza epidemic of 1917 and succeeding years. At the present time the total number of cases, judging from the number which a single practitioner sees, must be enormous and the amount of invalidism occasioned beyond calculation. Before the onslaught of this malady whether in mild or severe form the physician has been practically helpless. Since the procedure which is the subject of this preliminary note has proven of considerable value in a majority of the twenty-five or so cases in which it has been tried, it is considered worthy of publication.

Epidemic encephalitis, it may be said, presents such diverse pictures at all times and varies so greatly in its manifestations from year to year that it almost baffles description. It is perhaps more like syphilis in these respects than any other disease with which we are familiar. Somnolence, for instance, which predominated some years ago is now a rare and inconspicuous symptom. Also neuritis which was quite common for a period is now infrequent.

The sequence of events in encephalitis has been particularly puzzling and has not yet been made clear. Thus it was noticed in certain cases that there was first an attack of influenza from which recovery was

complete, with the possible exception of a slight lassitude and weakness. Then a year or two later the characteristic "sleeping sickness" developed and continued over a period of several or many weeks, terminating again in practical recovery. Finally after another interval of a year or more came a permanent picture which is like that of paralysis agitans. These recurring attacks instead of the symptoms mentioned may consist of headache and dizziness, delirium, dyspnea and a host of other symptoms. Whether this succession of outbreaks represents a continuous or recurrent process cannot be stated.

In all phases of the process the mortality is quite high, but no less important is the invalidism in patients that survive. Single exacerbations, as of headaches or delirium, may persist for months and even when improvement follows complete recovery is the exception. All in all it is no exaggeration to state that this disorder is less to be desired than a syphilitic infection.

THERAPEUTIC EFFECTS OF GLUCOSE

The present writer first learned of the possible value of glucose in treatment from the first of the cases cited below. Later, however, it was learned that Dr. R. C. Fagley, of the Veteran's Bureau in St. Louis, was employing the same procedure; and in a personal communication Dr. Fagley expressed himself as enthusiastic over the results after an experience covering more than two years. Dr. Fagley heard of the procedure, he states, from Dr. Howe, of New York, who apparently has been using it for some time although a cursory examination of the literature does not reveal any publication of his results. Several who were called upon to treat influenza cases in soldiers during the Great War have stated to the writer that glucose injections were used to good effect at that time.

REPORT OF CASES

Case 1. Mrs. M. J. act. 46, admitted to the Lutheran Hospital on November 25, 1926, under the care of Drs. Harvey Clithero and William Winter who had charge of the treatment. The patient was irrational, had a temperature of 101°, and appeared to be gravely ill. The condition was said to have existed for several weeks and its present state for about two weeks. The red blood count was 3,140,000 and the hemoglobin 40 per cent., white blood count 12,000. Blood transfusions were given on November 25, November 26 and December 1. The last transfusion produced a rather severe reaction, but thereafter the blood count remained normal. The writer saw her in consultation on December 2. The patient was in a confused state, was somewhat resistive, and had numerous

visual hallucinations. There were no definite neurological findings and the opinion was expressed that the condition was a toxic psychosis, probably encephalitis lethargica. Blood culture and spinal fluid examination were negative. The physical examination by Dr. Winter was negative. Urine was normal save for a small amount of albumin.

Glucose was given as follows: November 25, 500 cc. 5 per cent. glucose solution; December 2, 500 cc. glucose fortified with insulin; December 3, 500 cc. glucose with insulin; December 4, 1500 cc. glucose with adrenalin and insulin; December 5, 1000 cc. glucose with insulin; December 6, 1,500 cc. glucose solution; December 7, 2,000 cc. glucose; December 8, 500 cc. glucose. On this date gavage through nasal tube was substituted and a small amount of glucose given from time to time with other foods. During this period also several attempts to administer glucose by proctoclysis were made but the solution was not well retained.

The patient continued delirious, at times comatose and in a precarious state. On December 4 the pulse was weak, respiration irregular and exitus was expected at any time. Stimulants were given freely. Patient was then profoundly lethargic for a week. The condition began gradually to improve although restless delirium necessitated the administration of large amounts of sedatives for some days. On December 17 note was made that there was no great change in the delirium and on the 19th it was noted that the condition was in every way improved. This improvement continued and on December 25 the patient rather suddenly became clear. For a few days thereafter she was in a hypomanic state. The temperature ran as high as 101° daily from admission until December 20, after which it remained practically normal. Discharged January 2, 1927. At home the patient has remained entirely free from symptoms.

Case 2. Mrs. M. P., act. 34, admitted to Missouri Baptist Sanitarium on December 21, 1926, under the care of Drs. Kinner and R. K. Andrews. The patient was much emaciated, suffering from a moderate diarrhea and was delirious. The extremities were cold and the condition generally poor. The delirium was not profound as the patient was not difficult to control but there were numerous hallucinations, especially of the visual type, and delusions. There was a marked facial hirsute that was said to have appeared after the illness developed. The illness had existed since August, gradually increasing in severity.

A rather thorough examination was made, Drs. Dorsett, Fry and the writer seeing her in consultation. A gastro-intestinal examination was made by Dr. Gilliland with negative results. There was a considerable anemia, the red blood cells being 2,750,000 and the hemoglobin 42 per cent. However, the smear showed nothing diagnostic. The white blood count was 13,000 and the urine was negative save for a few leucocytes and bacteria. The neurological examination was negative for focal signs.

Five hundred cc. of 10 per cent. glucose solution were given in the vein on December 24, two such injections on the 25th, one on the 26th, two on the 27th, and two on the 28th. On January 7 two and on the 8th one were given.

On admission the highest daily temperature varied from 100° to 104° with a general upward tendency to January 3. After that the tendency was to lower temperatures, normal being maintained on January 18 and subsequently, excepting that there was another slight elevation of temperature on February 2, 3 and 4.

After January 1, the patient's condition improved

steadily and quite rapidly. This pertained to the mental condition, the general physical state and the diarrhea. By the 20th the mental state was practically normal. The patient was soon sitting up in bed and before she left the hospital was walking around the hospital ward. Discharged February 7, 1927. Her condition continues practically normal.

Case 3. Mrs. L. A., 45, was examined on January 18, 1927, at her home. There was a history of severe and increasing headaches of about one month's duration. During the day on which she was examined the pain had become almost intolerable. At first it affected the right side of the head but about a week previous had moved to the left side. It was most intense in the temporal region just above the zygoma, at which point there were also a subjective sense of pressure and tenderness to touch. Vision was blurred and she was mildly lethargic during the day. There was a good deal of dizziness. Patient had been generally healthy before the onset of the illness and was not given to headaches. There were no focal symptoms and neurological examination was negative. The temperature was normal.

She entered St. Luke's Hospital on January 19, at which time there was fever which soon rose to 103.4°. The patient was mildly delirious for two days and subsequently had no memory for this period. Dr. Howard H. Bell examined the patient and found nothing definite.

On January 20, 200 cc. of glucose were given in the vein; on the 21st, 250 cc., on the 22nd, 300 cc., on the 24th, 500 cc., and on the 27th, 500 cc. After that time glucose was given by mouth, the amount being six ounces of a 20 per cent. solution with lemon juice, twice daily. This has been continued up to the present time.

The fever subsided after three days except for occasional slight rises. After the first injection of glucose the headaches decreased so that opiates were no longer necessary, and in a few days had almost ceased. The lethargy gradually decreased; there were a few sleepless nights and then the normal sleep rhythm became established. At first there was great weakness, patient being unable to stand or walk unassisted, but she gradually became stronger. Under oral administration of glucose improvement seemed much more gradual. At this writing, March 22, she is still keeping quiet but has few symptoms.

In a disorder that presents such variable pictures as encephalitis does it is admittedly no easy matter to decide about the value of a procedure. But the effects of glucose therapy have been too definite to be mistaken. Not only has life been saved, but convalescence has been shortened. Indeed, of the cases in which treatment was considered to be adequate only one has failed to respond. This was the only typically somnolent case in the series and no reason can be assigned for the failure here.

Aside from those detailed above, favorable cases have been one of respiratory disturbance and colapso, four of delirium, one of epileptiform convulsions, two of headache and dizziness and six of prolonged invalidism with numerous minor complaints and one of Parkinsonian residual.

The residuals of Parkinsonianism and behavior disturbances in children are undoubtedly due to actual cell destruction and improvement is not to be expected except insofar as acute symptoms persist along with these. The children have shown no improvement at all.

Improvement is always slow, as a rule not becoming evident for a week after treatment is begun and extending over a period of several weeks. This fact is not surprising when one considers how extensive the involvement really is. By and large, the results compare quite favorably with those obtained, say, with tryparsamide in the comparable process, syphilis of the nervous system.

METHOD OF ADMINISTRATION

Intravenous injection seems to be much the more effective. Half the cases have been so treated. Generally 500 cc. of a 10 per cent. solution have been given at a time, and ten to fifteen injections are considered adequate. There have been a few severe reactions but with the solutions prepared by the wholesale drug houses only minor reactions have occurred. No permanently harmful effects have been seen.

Half the patients and these of the milder types have received glucose only by mouth and those who have had intravenous injections got it in this way after the injections were stopped. Usually an ounce and a half in a glass of water with enough lemon juice to make palatable is administered twice a day. This is continued indefinitely. With this method results are slower than after intravenous administration and its effectiveness in severe cases is doubtful.

The rationale of glucose therapy is interesting matter for speculation. Its value is perhaps due to the protective action against certain toxins which a carbohydrate diet has been shown to exist. Some years ago Dr. E. L. Opie and the present writer demonstrated on animals the protective effect of diets high in carbohydrates as contrasted to fatty diets against various liver and kidney toxins.¹ It may be that in encephalitis the glucose may protect the brain in a similar way.

Other sugars than glucose have not been tried to any extent. The action of glucose may or may not be to a degree specific. The dosage accepted may also not be the best possible. The experience of the first

1. J. Exper. Med. 21:1-20 and 21-37, 1915.

case given above might indicate that even larger amounts are needed.

At any rate it is felt that the method is rational, if carefully followed is apparently harmless, and is worthy of thorough testing. It would indeed be a boom to have a remedy for this prevalent and devastating disorder.

Humboldt Bldg.

THE AUTOTRANSPLANTATION OF ENDOMETRIAL TISSUE IN DOGS*

CHARLES D. O'KEEFE, M.D.

AND

R. J. CROSSEN, M.D.

ST. LOUIS

Endometrial transplants were first reported by Sampson,¹ who has so thoroughly covered this subject that his theories have been generally accepted. He has shown that the hemorrhagic cyst of the ovary has in it histological structures corresponding to



Fig. 1. Low power showing the endometrial tissue transplanted and growing in the mesoappendix at the junction of the appendix and cecum. There is a triangle formed by the appendix in the upper left corner, the cecum in the upper right corner and the mesoappendix across the base. On the inner surface of the mesoappendix can be seen a large plug of endometrial tissue containing typical uterine glands. This is attached to the inner surface by a slender Y shaped pedicle at either end. The surface to the right of this is also covered with what appears to be endometrial stroma but this is not so clearly of endometrial origin as that just described.

those found in the endometrium of the uterus and tubes. The glandular structures of the endometrial transplants often show ciliated epithelium corresponding to that found in the tubes.

Sampson² maintains that this misplaced tissue is the result of transplants rather than embryological rests. At times these endometrial growths have been found in sites so remote from the tubes that direct

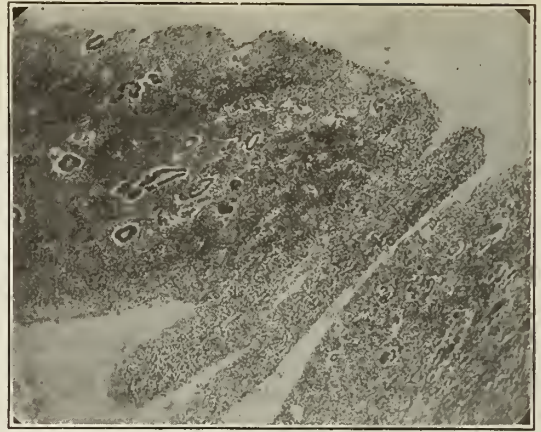


Fig. 2. High power taken at the right end of transplanted tissue (Fig. 1) where it joins the base by the slender Y shaped pedicle. Here one sees definite uterine glands slightly irregular in shape and lined by columnar cells. These glands are embedded in a stromal tissue having many oval and lymphoid like cells between the meshes of a fine reticular connective tissue.

transplantation appears to be impossible. Sampson³ has reported inguinal endometriosis and has suggested a possibility of direct extension from a peritoneal endometriosis about the inguinal ring and metastasis through the lymph vessels. Schmitz⁴ reported endometrial tissue in the inguinal region which he has called ectopic endometrium. He claims that his case is not a transplant but is due to metaplasia of the endothelial lining of capillaries and lymph spaces. These extraperitoneal growths, however, are considered by some as true embryological rests. Sampson⁵ states that next to myoma of the uterus the endo-

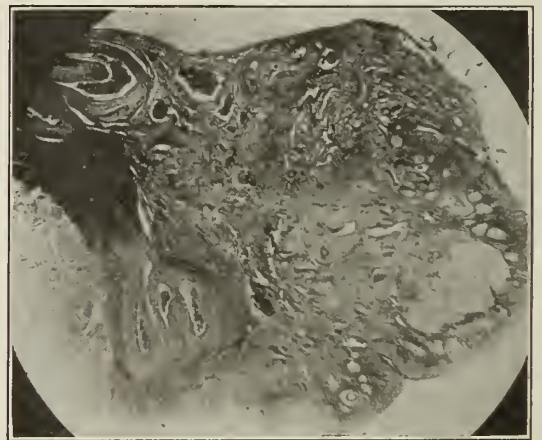


Fig. 3. A low power of a section through the ovary. The cortex can easily be identified in the lower right corner of the section. Numerous follicles can be seen near its surface. The transplant, containing many irregular glandular structures, is seen about 1 cm. from the upper right end of the cortex. These glands do not stand out well under low power; under higher magnification as shown in Fig. 4 the glands are seen to be similar to those shown in Fig. 2.

*From the Gynecological Department of Washington University Medical School.

metrical transplants furnish more pathology in the pelves of women between the ages of thirty and menopause than any other pathological condition. He found these lesions present in thirty seven out of one hundred and seventy operations in one year. Some of these transplants showed menstrual changes, which in turn caused further extension at each menstrual time. He believes that these secondary implants are more virulent and invasive than those occurring in the original ovarian hematomas.

Many different sites of endometrial tissue have been reported in the literature. It has been found in the ovaries,^{6,7} culdesac,⁵ appendix,⁸ different parts of the intestinal tract,⁵ inguinal canal,³ umbilicus,⁹ abdominal wall following operation,^{10,11} and the bladder wall.¹² The tissue in the majority of these sites can undoubtedly be explained by direct transplantation, while embryological rests may be the cause in a few. Autotransplantation of endometrial tissue in lower animals, reproducing this tissue, has certainly strengthened the direct transplantation theory.

Jacobson has successfully transplanted endometrial tissue in rabbits¹³ and monkeys,¹⁴ while Hesselberg, Kerwin, and Loeb (working together) transplanted this tissue in guinea pigs.¹⁵ The experimental work of Jacobson on monkeys is especially interesting because of the established menstrual cycle in this animal. He successfully autotransplanted endometrial tissue in four of five monkeys. One monkey was killed ten months later, while menstruating, and secondary menstruating endometrial tissue was demonstrated both in the ovaries and beneath the serosa of the uterus where it had been placed.

In our work on dogs, autotransplants were made in every case. While only two successful transplants were obtained, we feel that our low percentage of growths was due to technicalities having nothing to do with the vitality of the tissue transplanted. At the beginning of our work we selected anatomical sites that were difficult to locate later, a few failures resulting from this cause. For this reason we later selected sites that could be easily demonstrated at autopsy or subsequent operation. Postoperative complications in some cases resulted in death too soon after the transplants were made to allow for proper development of the tissue at the new site.

Ten dogs were used but as three were

unquestionably failures due to the above reasons they are not included in the following report.

1. Dog No. 3. Operation March 18, 1925. Endometrial tissue was removed at the bifurcation of the uterine horns and placed in the right rectus muscle. The dog died three weeks later and the tissue removed at autopsy showed no evidence of any endometrial structures.

2. Dog No. 39. Operation April 8, 1925. Tissue removed at bifurcation of the uterus



Fig. 4. These glands are closer together, larger and more irregular in shape than those seen in Fig. 2. The stromal tissue contains more connective tissue than usual. It may be that these differences can be attributed to the fact that one dog was nearer estrus than was the other, the endometrium being in a different stage of activity.

and placed in the left ovary. Dog died five weeks later with no demonstrable endometrial growth.

3. Dog No. 166. Operation April 22, 1925. Endometrial tissue removed from near bifurcation of the uterus and placed in the meso appendix. On November 4, 1925, the dog was killed and appendix and adjacent tissues were removed for sectioning. A marked implantation resulted as shown in the (Figs. 1 and 2.)

4. Dog No. 126. Operation October 21, 1925. Endometrial tissue placed in fold between appendix and cecum. Dog died two months later; no growth found.

5. Dog No. 16. Operation May 6, 1925. Endometrial tissue placed in left ovary. October 6, 1925, tissue was removed for sectioning. (Figs. 3 and 4.)

6. Dog No. 17. Operation October 21, 1925. Endometrial tissue placed in the tip of the appendix. Dog died three months later. Autopsy showed many adhesions

around appendix but sections failed to reveal any endometrial transplants. This dog apparently died from peritonitis.

7. Dog No. 127. Operation October 28, 1925. Endometrial tissue placed in the mesoappendix. Sections five months later showed no growth.

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THE GALLBLADDER AND THE SURGEON*

FRANCIS REDER, M.D.

ST. LOUIS

Among the most common diseases in the abdominal cavity are those of the biliary tract. Obstruction by stone is undoubtedly the most prevalent and is the cause of the severe type of pain that has characterized this lesion.

These patients are usually seen at first by the family physician. He studies the cases and often makes a diagnosis. Whether or not he appreciates the nature of the disease, there rests a measure of responsibility upon his shoulders which he cannot evade. If he believes that a given case is a fit subject for surgery, he is responsible to the patient for a capable consultant—and by a capable consultant I mean a surgeon not only well qualified in operative technique, but one also familiar with the gross pathology of a gallbladder lesion, so he can recognize the normal from

the abnormal, and be able to deal with the condition in an intelligent manner.

The position of the surgeon when confronted with a gallbladder lesion is even today an exceedingly trying one. Happily the last ten years have added much to make his position more tenable. The surgeon still too frequently meets with objection from the internist when the condition is strongly suggestive of an operative measure. This may be because the patient does not appear seriously sick. He may have had previous attacks and made a satisfactory recovery from them. The physician may have had patients operated on for a gallbladder lesion who died and he may feel that possibly they might have recovered or become quiescent without operation if they had waited. The surgeon from his experience, and it must be absolutely necessary that his experience be a large one if he wishes to take an authoritative stand, reasons that it is wrong to wait until forced to operate by the most exigent conditions; that an operation in certain cases should always be performed and usually promptly, since the next attack might prove fatal.

To appreciate the value of early surgery in these cases we must understand the pathologic changes wrought by time. It is utterly impossible ever to know the exact pathological state in the right upper quadrant of the abdomen until the body is opened. The surgeon fully appreciates that the decision as to the propriety of an operation or as to the most favorable time for such an intervention is often difficult. Individual valuation of all the circumstances in each particular case is the only means of forming a correct judgment. Again, the fact must not be overlooked that in many fields of surgery the early intervention is the least dangerous. The unknowable elements of the subject will for some time to come be a factor in creating the difference of opinion between the surgeon and the internist.

It cannot be satisfactorily explained why some patients can have attacks of pain for an indefinite time and never come to great harm, whereas some patients who died following a timely and proper operation might have recovered or become quiescent without operation. It is only logical to assume that a patient suffering from biliary tract disease to the extent of producing marked symptoms, would minimize to the lowest point his danger of death from it by accepting an operation.

Now what are really the cases of gallbladder disease in which the surgeon is so intensely interested? As we all know the prodromal symptoms of biliary colic are not

*Delivered at the 69th Annual Meeting, Missouri State Medical Association, St. Louis, May 18-20, 1926.

marked and may come on gradually. The pain at first produces little more than discomfort in the right hypochondrium or epigastrium, gradually increasing in severity. The onset is ushered in with gastric symptoms not unlike acute dyspepsia, increasing to nausea and vomiting. The pain is colicky in character and is often referred to the right shoulder blade. There is usually obstinate constipation and little if any rise in temperature. Jaundice is present or absent depending upon the severity of the attack and the location of the obstruction. Cases presenting a clinical picture of this character usually remain in the hands of the family physician especially when they respond to treatment. It is only when the attacks become more frequent and more severe that surgery is given a thought. Even in such cases a hesitancy to call a surgeon is frequently in evidence. In our present knowledge of gallbladder disease this should not be. It is well known that such conservatism is often harmful in the face of the apparent good that might accrue from hopeful anticipation. The interpretation of a clinical picture that depicts a sudden and severe colic in the right epigastric region, requiring more than one hypodermic of a fourth grain of morphin, should no longer be clouded in doubt as to how such a case should be classified. Such a case, whether or not it be of the calculous or the noncalculous variety, belongs to the surgeon. The evident peril of the patient must be judged by the severity of these signs and symptoms. As to the hidden peril no one can say with certainty as to what may be going on behind the wall of the abdomen.

To appreciate fully the meaning of a biliary colic the desired stimulus can be gotten by a perusal of Dr. Evarts Graham's notable contribution on "Hepatitis; A Constant Accompaniment of Cholecystitis," presented before the Chicago Surgical Society in 1917. Not only in acute cholecystitis, but also in the subacute type did Dr. Graham find microscopic evidence of inflammation in the liver. In cases of chronic cholecystitis the liver resembled early cirrhosis. The inflammatory reaction was chiefly pericholangitic. From exhaustive studies of the lymphatic distribution of the gallbladder it can be quite definitely assumed that cholecystitis begins in most instances as an infection in the wall of the gallbladder and doubtless is secondary to hepatitis. After all it is the infection so readily spread by the lymph stream that is the evidence of peril which prompts the acceptance of the safer plan of procedure, i. e., the removal of the cause rather than run the

risk of one of the many possible complications which occur and end so fatally in fully 6 per cent. of such cases.

Reverting to the gallbladder lesions that concern the surgeon, we find that the primary attacks with virulent or malignant infection of the gallbladder are sufficiently dangerous to demand immediate operation. In these cases the attack is sudden pain, accompanied by high temperature associated with vomiting. If the cystic duct is obstructed there will be great sensitiveness but less spasmodic pain; if the common duct be involved, no sensitiveness but great pain and jaundice are present. The patient usually has symptoms of severe septic intoxication. These symptoms mean certain pathologic changes. If these symptoms are referable to the gallbladder there is sepsis and obstruction of the cystic duct and as a result increased secretion and retention under pressure, so that the toxic effects of the microphytes are at the greatest advantage to produce gangrene and perforation of the gallbladder.

Assuming that there is present an acute obstruction and infection of the common duct, associated with high temperature, chills, jaundice, dry tongue and delirium, the gallbladder again is uppermost in the mind of the surgeon, because it is drainage of this viscus that will give the relief of the tension under which this infected material is retained. This pathologic condition demands immediate intervention, and unless it be the gangrenous type of infection or long involvement of the cholanges, there will usually be a rapid cessation of the toxic effect. These patients are desperately sick and the object is simply to relieve the tension of the bile ducts by the shortest and simplest operation,—cholecystostomy. A prolonged operation, such as choledochotomy, under these circumstances would prove fatal.

Of other cases of gallbladder trouble that are proper subjects for surgical consideration are the cases of chronic cholelithiasis in which the suffering has led to the opium habit.

Every case of known distention of the gallbladder by fluid of any sort is a constant peril and should be operated on if possible. If there is reason to believe that the bladder contains pus, operation is urgently demanded. In all cases in which frequent recurrences or the persistence of symptoms indicate the progressive contraction and fibrosis of the gallbladder, operation should be insisted on, for in these there is some danger of an explosion of infection that may destroy life and a certainty of the disease getting worse and not better.

We may definitely assume that the days of "watchful waiting" in gallbladder troubles are growing shorter, and that is as it should be. Such deliberations over a jaundiced condition, whether or not due to a stone or a catarrhal choledochitis, or whether the stone be forced out of the bile passages into the intestine by nature, or perchance drop back into the gallbladder where it may remain innocuous for years, are indeed very poor arguments against the need of operative intervention. In the present surgical era an operation performed by a well trained surgeon is not the dreadful business it used to be, and the results have been so successful that many physicians, if not their patients, will decide that operation is preferable to a life constantly threatened by attacks of biliary colic or to a regimen which takes away much of the pleasure of living.

Given the diagnosis of gallbladder lesion, and the indications for surgical intervention having been clearly defined, the question as to what kind of an operation is to be performed is uppermost in the surgeon's mind. You have heard much of cholecystectomy during the past decade. That removal of the gallbladder has gradually overshadowed the old operation of cholecystostomy is true. The reasons for this step are valid and well founded; however, there are still cases where the operation of simple drainage must receive preference. To argue over the pathology demanding either one or the other of these surgical measures would be too time consuming at this hour. Suffice it to say that the history of the case and the condition of the patient as interpreted by the surgeon will give him the necessary information upon which to form his opinion as to the proper operation for this particular case. All this of course is formulated before the abdomen is opened. It is after direct inspection and palpation of the involved area that the definite course as to the procedure is made and I can assure you that quite frequently the beautiful operative vision of the surgeon before the abdomen was opened is ruthlessly jarred.

I believe that cholecystostomy, with the establishment of a biliary fistula at one sitting, is best suited to the average case. One of the chief objections to this method is the long continuance of the drainage. That, however, in many respects may prove of great advantage in exercising a beneficent influence upon associated organs. Another objection, and one of considerable weight, is the inability properly to cope with the so called papilloma-

tous gallbladder. There can be but little doubt that a gallbladder harboring such a pathology is a menace to the future welfare of the individual and its removal is justifiable.

In cases of acute cholecystitis, when the gallbladder is very large, beefy and edematous with a purple discoloration, evidencing a localized peritonitis from complete blockage at the cystic duct, the question of drainage only or the removal of the viscus is one that must be decided by the experience and judgment of the surgeon. I know of excellent surgeons who remove such gallbladders and I know surgeons competent who do not remove them. After all, this is a matter that rests wholly with the resisting power and reserve force of the patient,—a condition exceedingly difficult to judge. It would appear to me that the greatest danger exclusive of technical difficulties would be the tendency of having some of the septic material in the gallbladder pass into the common duct, even during gentle manipulation, and thus set up an infectious cholangitis of a high degree of virulence productive of symptoms of retention in the common duct, with failure of good drainage of bile through the normal channel. Unless drainage is promptly established in such cases a fatal cholemia will usually be the outcome.

Secondary operations, unless the good fortune happens of having the ligature on the cystic stump give way under the existing pressure and establish desired drainage, are usually very grave measures on account of the sick and exhausted condition of the patient. Even in viewing a contemplated cholecystectomy for an acutely infected gallbladder from all angles, there remains an element of doubt as to whether it is the proper procedure to be undertaken. It is remarkable the excellent recovery some patients made when an acutely infected gallbladder has been subjected to simple but thorough drainage, and yet the primary impulse that obscures the surgeon at the sight of such a diseased viscus is to remove it.

If I may speak of my own limited experience, deaths and recoveries have summed up in an equal proportion in patients subjected either to drainage or removal of an acutely infected gallbladder. Such an experience inculcates into the surgeon an incentive of extreme care when operating for an infectious process. I may state that in chronic cases when a syndrome of pain, chills and high temperature, associated with more or less jaundice, has crept into the otherwise quiet picture, a cholecystectomy should receive the most serious consideration before it is undertaken because

these subjects usually have impaired vital organs and are always poor surgical risks and too often succumb to the added shock of long operations, especially when a general anesthetic is given.

It is my opinion that a cholecystostomy should be given the preference in such cases, even though it has to be performed in two stages. These are the cases where a certain latitude of opinion regarding the character of the operation must be allowed. After all has been said, it only stands to reason that a sufferer from a gallbladder lesion producing marked symptoms would minimize to the lowest point his danger of death from it, by having it dealt with surgically, provided he has a surgeon who is wise in pathology and procedure, as well as expert in technique, and provided that the patient has good vital organs.

DISCUSSION

Dr. H. P. Kuhn, Kansas City: It is not within my province to discuss Dr. Graham's paper. I feel, however, that visualization of the gallbladder is of distinct value in the diagnosis of gallbladder disease and may, in determining the function of the gallbladder, enable us to differentiate between the removal of the gallbladder or simple drainage.

Dr. Reder has covered his subject so thoroughly that there is little left for me to say. I might, however, use the words of Dr. Harbin, of Rome, Georgia, who boiled down the whole question of surgery of gallbladder disease in this statement: "It is not so much the type of operation as the menace of unnecessary operation on the one hand and the late surgical procedure for a disease that has extended beyond the reach of surgery, on the other hand." The indications of cholecystectomy are well defined.

I am inclined to feel that we are going in the future to view with abhorrence to a certain extent, the words "chronic biliary disease" as we do the words "chronic appendicitis." While the situation is not exactly analogous, yet it has some points in common. Chronic appendicitis covers a multitude of things, ureteral stone, etc. Chronic biliary disease may cover duodenal ulceration, gastric crises and a host of other symptoms referable to the right upper quadrant. A more exact diagnosis and terminology would be warranted.

The ultimate cure of biliary disease is going to result only when the causes of the disease have been removed. This does not mean the gallbladder alone but the foci of infection which are the factors in the production of the disease. I think it matters little in a gallbladder that is not too badly diseased whether it is removed or drained, if the foci of infection are eradicated. The end result will be the same—the patient will get well.

Dr. F. G. Nifong, Columbia: Cholecystography has already proven exceedingly valuable and promises to become more helpful in the diagnosis of gallbladder troubles. However we realize its limitations while appreciating its great importance and value to us. It is of very doubtful value to those who have not yet the skill and ability to interpret it as have those who have the opportunity to do a great deal of this work. The conclusions of a novice are practically worthless from the surgeon's

point of view. The inexperienced interpreting X-ray plates always reminds me much of looking at the man in the moon. One with sufficient imagination may see a man or woman in the moon, or various fanciful figures. The more the moon is full, or the more the observer is full may determine what is seen. So one's imagination may enter in as a factor in the interpretation of the cholecystogram.

I must say I have been much impressed with the cholecystograms I have had opportunity to see. They have very, very great value and will surely aid greatly in making a diagnosis. But we must not forget, as both Dr. Graham and Dr. Reder have accented here, the clinical side of the work in our diagnosis. Clinic, clinic! I am using the word in the good old way meaning the bedside work. We must not get too far away from those old methods. Let us have every scientific help and every proved laboratory method to assist us, but not forget the value of clinical history. This thought might profitably be impressed on some of our younger and highly trained doctors.

There was another thing spoken of which is of exceedingly great value, if taken likewise in its true worth, and that is the blood examinations. In gallbladder infection the blood picture and the right interpretation thereof are of the greatest value. That does not mean making a white blood count which may merely mean the momentary fighting ability of the blood. In our little clinic we are not satisfied with that but must have a differential blood count. We must know if the polymorphonuclears are rising and perhaps the leucocytes decreasing and pus formation imminent. We have experienced that this laboratory procedure, which is made in all cases, is of inestimable value as an index to the virulence of the infection and the need for urgent help.

After all, coming back to our old clinical habit, sitting down by the bedside and going over and over again, and again the history and findings in the case until one has a clear and definite picture in one's mind, is not yet bad practice. Then if we may have the aid of the cholecystogram, the differential blood count, or any other proven laboratory procedure, let us have it. We will learn to take it for its true worth and not let them outweigh our clinical judgment.

Dr. Reder makes a complete review of the gallbladder situation, and the advisability of operation and the type of operation uncertain eventualities. I am one of those who has never been able to see that the gallbladder has no function. I still believe it was put there for something and that the storage and concentration of bile is necessary for good digestion; that its outpouring at the proper time is the proper way to have that best digestion. I do not think the gallbladder is analogous in function to the appendix, as a previous speaker indicated. The appendix has no function as we know except to become infected and make work for a surgeon,—and I am not on the conservative side when it comes to operating on them. I commend Dr. Reder for his stand for cholecystotomy rather than cholecystectomy under certain conditions, and burning the bridges behind. I have seen several unfortunate cases in my lifetime with the bridges burned, and I say it does produce anguish and misery both to patient and doctor.

I wish to take one exception to Dr. Reder's remarks, and that is when he casts a little slur on the small community and county hospitals. Somewhere he has suffered "anguish" I have no doubt,

but I never permit any one to reflect on them without standing up in their defense. A hospital is somewhat like a church. You may have your cathedral in St. Louis and we our village church; you may judge if you wish whether the percentage of worthy and sincere service is greater in one or the other.

Dr. Reder, in closing: I have nothing further to say except to thank Dr. Kuhn and Dr. Nifong for discussing the subject. I may state however that Dr. Nifong made me feel quite badly, because he misinterpreted my expression about hospitals in small communities. If any one favors a community of five thousand and over having a hospital I would unreservedly do so. They are essential and we must have them. But there are sometimes objectionable conditions existing in these hospitals so that they are not the representative institutions a community should have. Men who have the controlling interests in the hospital but lack ability must not occupy the dominating positions. I speak knowingly about such conditions.

Dr. Nifong: Now I beg Dr. Reder's pardon for misunderstanding him in regard to little hospitals. I thought he was accusing and condemning us on account of our size. I retract, but I will continue to defend them as a class and well worthy of every good surgeon's support.

415 University Club Building.

AGRANULOCYTIC ANGINA*

FRANK R. FINNIGAN, M.D.

ST. LOUIS

Agranulocytic angina was first described by Werner Schultz¹ in 1922. The disease is characterized by severe ulcerative angina and a blood picture of leukopenia with few or no polymorphonuclear cells. A review of the German literature discloses that seventeen cases were reported, viz., six by Werner Schultz,¹ four by Ulrich Friedman,² two by Lauter,³ one by E. Petrie,⁴ and four by R. Schaefer.⁵ In America Dr. R. B. Lovett⁶ reported one case in 1924, R. J. Hunter⁷ one case, J. H. Skiles⁸ one case, Moore and Weider⁹ one case and E. B. Krumbaar¹⁰ one case. No case reports were found in French or British literature. Of the twenty two cases reported eighteen occurred in females. The age incidence was from eleven to sixty seven years. Three patients recovered, nineteen of the cases terminated fatally, a mortality of 86 per cent. plus.

Krumbaar's patient, a female, aged 21, was a syphilitic under active treatment. Moore and Weider's patient, a female, aged 42, recovered from an attack in 1922 and succumbed to the second attack in 1925.

Lauter reports a case of recovery in a maiden, age 26. Blood culture showed staphylococcus aureus and hemolyticus.

*From the Soper-Mills Clinic.

Ulcers in mouth healed after ten days. Blood picture normal after nine weeks. Treatment consisted in fifty per cent. chromic acid solution applied to ulcerations and the employment of Omnadin.

One of Schultz' patients was a young woman suffering from an abscess in the gluteal region. She had no involvement in the mouth or throat. Therefore, agranulocytosis may occur without angina.

ETIOLOGY AND PATHOLOGY

The etiology to date is not determined. *Bacillus pyocyaneus*, *streptococcus hemolyticus*, *staphylococcus aureus* have all been recovered, either from the blood stream or culture of organs after death. All that can be said of the etiological factor is that it is specific infection which may act directly on bone marrow causing loss of power of forming leucocytes or by direct infection causing ulceration.

Quoting from Weiner Rotter:¹¹ "Clinically, gums, tongue, tonsils, larynx, esophagus, sometimes genitalia, were affected by a necrotic diphtheritic process." Autopsies of few cases revealed processes simulating septicemia, as cloudy swelling of liver, kidney, spleen, etc. Other cases show pictures resembling typhoid fever. Typical Peyer's characteristics were observed in a few autopsy reports. Bone marrow in all cases showed practically no granulocytic cells.

DIAGNOSIS

The onset of the disease as a rule is sudden, with high fever, sore throat, having all the ear marks of an acute infection. The characteristic lesions, a rapidly spreading ulcer covered by exudative membrane, are found on the mucous membrane, especially throat, larynx, tonsils and buccal membrane. Lymphatic glands not involved. Urine shows results of acute infection. Blood examination shows red cells normal, severe leukopenia with marked decrease or absence of granular leucocytes.

In membranous throat conditions agranulocytic angina is to be borne in mind in arriving at a diagnosis; especially must it be differentiated from diphtheria.

CASE REPORT

Male, age 65, physician, came under observation Nov. 14, 1926.

Previous history. Has had more or less stomach trouble since age of 12 years, at which time had

copious gastric hemorrhage. Patient states always has been underweight, nervous and a poor sleeper. Smokes three cigars daily, does not use liquor. Has been a widower past five years, no children, no venereal diseases. Was X-rayed by the late Dr. R. Walter Mills in December, 1923, which disclosed great ulcer crater on lesser curvature of stomach. He was placed on ulcer regime by Dr. H. W. Soper. Last X-ray April 7, 1925, showed no evidence of gastric ulcer crater. No gastric symptoms past two years. Family history negative.

Physical examination. Patient is of small stature, frail, height 5 ft., 7 in., weight 100 pounds. Gave appearance of being very ill. Answered questions intelligently but with difficulty, voice very hoarse. Eyes dull, sclera not jaundiced, pupillary reflexes normal.

He had been ill in bed for the past six days suffering from an attack that was diagnosed "lagrippe." He had the usual symptoms of general aching pains and moderate fever but his throat was very painful and he was much depressed and exhausted. He was sent to St. Luke's Hospital and seen in consultation by Drs. W. E. Sauer and H. W. Soper. Dr. Sauer remarked that "he had seen several such looking throats and all the patients had died." He described the throat as follows; "A membranous exudate on the right side of the pharynx involving the pyriform sinus. This exudate when detached leaves a bleeding necrotic surface." Dr. John Schmidke, the hospital interne, experienced great difficulty in making a blood count. It would not smear well and he was astonished at the few polymorphonuclear cells encountered.

Dr. George Ives was summoned and he at once recognized the blood picture as representing the rare condition known as agranulocytic angina. Blood transfusion was determined upon and Dr. Ives gave him 700 cc. by the citrate method without the occurrence of reaction. Blood examination by Dr. Ives showed following.

Red blood cells.....	5,000,000
Hemoglobin	73 per cent.
Leucocytes	950
Differential count	100 cells counted
Polynucleophiles	13
Eosinophiles	3
Baso	1
Small lymphocytes	64
Large lymphocytes	11
Transitional	1
Large mononuclears	7

Blood culture did not show any diphtheria fusiform bacilli or spirochetæ.

Patient swallowed with great difficulty and very little food could be given. Two days after the transfusion he began to improve gradually. Pain in throat became less severe and he could take soft foods. We employed a high vitaminic diet, such as puree of spinach, tomatoes, finely ground whole wheat cereals, eggs, cream, etc. Concomitant with the improvement in his general condition, a steady rise in the number of neutrophilic leucocytes was noted, as follows:

Nov. 16 was	1,600
Nov. 19 was	2,000; 22 per cent. granulocytes
Nov. 20 was	3,400
Nov. 25 was	4,200; 57 per cent. granulocytes
Nov. 29 was	8,500; 66 per cent. granulocytes

Complete blood count by Dr. Ives Dec. 2 showed the following:

White cells	10,000
Red cells	5,400,000
Hemoglobin	81 per cent.
Polynucleophiles	85
Eosinophiles	0
Baso	0
Small lymphocytes	15
Large lymphocytes	0
Transitional	0
Large mononuclears	0

Frequent examination of urine showed moderate amount of albumin and few casts. Cleared up as patient recovered. Nov. 25 note by Dr. V. V. Wood: "Throat lesions all practically well covered with epithelium." The only complication that appeared later was a large posterior external hemorrhoid with ulcerated anal margin. Treated symptomatically. Patient discharged as cured Dec. 10, 1926, five weeks after onset of disease.

In the treatment of this case the successful blood transfusion was obviously the great factor in promoting recovery. Furthermore, we abstained from giving him a second transfusion when he began to improve. Moreover we refrained from employing intravenous preparations of arsenic and mercurochrome.

CONCLUSIONS

Agranulocytic angina is a definite clinical entity.

1. Agranulocytosis may occur without angina. It is characterized by a leucopenia with few or no polymorphonuclears cells. It is a rare disease of obscure etiology and high mortality rate.

2. The diagnosis can at once be established by a differential leucocyte count. It must be differentiated from diphtheria and Vincent's angina.

3. Blood transfusion appears to be the most logical and efficient form of treatment.

3701 Westminster Place.

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TUBERCULOSIS OF THE MAMMARY GLAND

A CASE HISTORY STUDY

D. T. VANDEL, M.D.

KANSAS CITY, MO.

The clinical observations of Sir Astley Cooper¹ on "scrofulous swellings of the bosom" placed the mammary gland in that group of organs subject to tuberculosis, and it is surprising that his clear description was not sooner followed by a greater number of reported cases. It remained for Dubar² in 1881 to demonstrate by microscopic methods that tuberculous processes occurred in the breast. His report established the first definite criterion for the microscopic recognition of tuberculosis of the mammary gland.

The condition is found most frequently in the female; however at times it occurs in the male. Heyfelder³ reporting the first case and to date ten cases have been reported. In the female the age limit for the incidence of the disease extends from the twentieth to the fiftieth year, this including the period of greatest reproductive activity. Whether the influence of fecundity acts as a real predisposing cause, or that it is coincident to the age in which the disease is most common, is difficult to answer. Pregnancy and lactation, by causing an increased vascularity to the breast, could in this way act as predisposing causes.

The factor of heredity as elsewhere in tuberculous conditions acts more in the role of a contributing cause. Trauma is rarely followed by tuberculosis; however it may be a factor in that a latent focus in a susceptible person may be activated into a primary one. Suppurative mastitis may be followed by a tuberculosis from one to thirty-five years later.

Tuberculous mastitis may be described as primary and secondary, the former being those in which the breast alone is involved, the signs of tuberculosis elsewhere in the body being absent. Klebs has denied the occurrence of primary breast infection and there are only a few cases reported in which the breast was definitely known to be primarily involved.⁵ Since there is no record of a patient coming to an autopsy with tuberculous lesions confined to the breast, absolute proof of primary mammary tuberculosis is lacking; nevertheless the term is still used. As suggested by Geisler,¹⁸ solitary mammary tuberculosis, cover-

ing those cases in which the breast alone is involved, is more applicable.

Since primary tuberculosis occurs in the genital tract it is reasonable to believe that it can be present in the breast. Postmortem examinations reveal that bacilli can produce their specific lesions in distant parts of the organism without serious damage to the tissues through which they pass. Primary pulmonary tuberculosis has been produced experimentally by Ravenal⁶ through the alimentary tract without any lesion of the tract itself.

The possible transmission of the disease from mother to nursing child is an important factor in primary mammary tuberculosis. Although it is rare that a woman with breast disease would nurse her child, nevertheless such instances have occurred, as reported by Davis⁷ and Scott.⁸ So far there has been only one case reported of infantile tuberculosis traceable to the mother's milk. Such observations are rare in the female though frequently made in the cow. Consequently we may believe that milk from a tuberculous breast is unsafe for the child and although rare tuberculous mastitis may occur unsuspected in primary form. This possibility should be thought of during lactation.

Where the breast alone shows clinical evidence of tuberculosis, Halstead and LeCount⁹ believe that it has been involved by a retrograde metastasis from some infectious focus in the axillary lymph nodes.

The majority of investigators have considered that mammary infection is of hematogenous origin, others holding that infection occurs through the lactiferous ducts. Rodman¹⁰ maintains that, should the latter be the route, then the ducts would be the point of greatest activity for the infectious process. Ingier¹¹ cites a case in which the inflammation was confined to the walls of the excretory ducts and periacinous tissue, the interacinous tissue being only slightly involved. Granulation tissue extended into the membrana propria and finer ducts and acini from without. In the large ducts the process seemed to arise within the duct wall. Epithelial detachment resulted with final obliteration of the lumina of the ducts. This case might be cited as a partial substantiation of the lactiferous route for infection; however this does not necessarily follow. Tuberculosis of the nasopharynx is a rare condition and the process begins in the muscular tissues notwithstanding that the glands and mucosa of the nasopharynx

are as frequently exposed as other parts of the body. Although tubercle bacilli have not been demonstrated in the blood of tuberculous patients (and blood from all stages has been examined), this does not preclude the possibility of a shower of bacilli striking the breast.

Tubercle bacilli are difficult to find in the breast lesion. In an examination of 400 cases Piskacek¹² found only a few bacilli. Deaver¹³ found bacilli only 79 times in stained section and 4 times in pus from necrotic areas.

The average duration of the disease varies from 10.1 months in the primary cases to 11.2 to 12 months in the secondary ones. On a whole mammary tuberculosis pursues a more rapid course than carcinoma.

As a general rule only one breast is affected, usually in the upper outer quadrant; however, cases of bilateral mammary tuberculosis have been recorded by Gilberti.¹⁴ Carcinoma may occur concomitantly with the tuberculous lesion, these cases coming in the upper age limit.^{5, 19}

The varieties of mammary tuberculosis may be divided into:

A. Nodular, in which there are (1) solitary or (2) disseminated forms. B. Confluent. C. Sclerosing.

In many instances the above divisions are only different progressive stages in the same pathological process, since disseminated nodules may become confluent with the formation of caseous areas.

In the nodular variety many small firm nodules, resembling an adenoma, may be palpated. The breast is usually not enlarged and the skin over the nodular areas is intact. These nodules are composed of zones of blue gray tissue surrounding wax colored caseous centers, which in the disseminated form are scattered throughout normal breast tissue. On section the nodule does not convey the gritty sensation as is commonly found in carcinoma.

The confluent type occurs as a further step in the pathological process and in this variety a more acute course is noted. Here large irregular areas may be palpated, some of which fluctuate. The breast is enlarged, the skin over the fluctuating areas being tense and red; ulceration of the skin and sinus formation, with discharge of odorless pus, occurs. The sinuses are lined with a pale gray membrane in which are found numerous secondary tubercles varying from a millimeter to a centimeter in size. On gross section the breast presents a picture

of a waxy discoloration of the glandular and adipose tissue, interspersed with ragged cavities filled with grumous, necrotic cellular debris. In the walls of the cavities varying sizes of tubercles are seen. From the lactiferous ducts adjacent to these areas may be expressed a grumous material similar to that found in the cavities.

On microscopic examination of such areas one notes a center of amorphous hyaline material surrounded by large numbers of giant and epithelial cells, between which there is the proliferation of new connective tissue and thin walled blood vessels.

The sclerosing type of tuberculous mastitis, seen most frequently in elderly women, is similar to the fibroid form of tuberculosis found elsewhere in the body. Here the breast is apt to be distorted with nipple retraction and the lesion, if palpable, is of firm consistency. On section there is found a firm fibrous gray mass with little caseation. The tuberculous lesion is usually unilateral even though axillary gland involvement may be bilateral.

The most prominent symptom of mammary tuberculosis is the formation of a painless, slowly enlarging lump, later becoming tender. Abscess formation may occur with ulceration of the skin sinus formation and discharge of odorless pus. Palpable axillary glands may be present. In the secondary forms there is usually some antecedent history of tuberculosis elsewhere in the body.

Clinically, the diagnosis is based on the chronicity of the lesion, together with the tendency toward infiltration, softening of the skin and sinus formation. The lymph glands when enlarged are usually not so hard as is common in malignant conditions. The finding of typical tuberculous tissue on biopsy renders a conclusive diagnosis.

The condition is to be differentiated from malignancies and the chronic infections processes, syphilis and actinomycosis. In the latter there is a history of trauma, infection from some contaminated object, or the presence of an actinomycotic lesion of the ribs. A slow growing painless mass soon develops, followed by sinus formation and discharge of sulphur granules. The adjacent lymphatics are rarely involved.

The primary and secondary forms of syphilis are easily diagnosed, while the gummatous variety presents the greatest difficulties. The gummatous form of breast syphilis is unilateral; however bilateral lesions have been reported.¹⁵ The adjacent

lymphatics are enlarged together with the formation of a lump in the breast which slowly increases in size until the skin is involved with necrosis and a wash leather like ulcer forms. At this time pain is present, most noticeable at night. The use of potassium iodide as a therapeutic test along with the Wassermann reaction and history of infection is of value in rendering a diagnosis.

From the Mayo Clinic Durante and McCarty¹⁶ report that the tuberculous mastitis constitutes about 0.51 per cent. of all breast lesions coming to operation. Gatewood¹⁷ in a ten year period from the Presbyterian Hospital reports the incidence of tuberculous mastitis as 1.04 per cent. of all breast lesions coming for operation.

The following case reports from the St. Joseph Hospital comprise 1.02 per cent. of all breast cases which have come to operation during a ten year period from 1916 to 1926 inclusive.

REPORT OF CASES

Case 1. Mrs. L. S. (Patient of Dr. H. Hill). Age 31 yrs. Housewife. Entered hospital 12/7/25, complaining of a lump in the right breast. The mass had been noted six months previously and had been slowly increasing in size. She had no other complaint aside from the above.

Physical examination was negative except for the breast which, in the upper outer quadrant, contained a firm, movable circumscribed mass the size of a lemon. There was no retraction of the nipple and the skin over the mass of normal appearance. Axillary glands were not involved.

Patient was in good health preceding her entrance to the hospital and was the mother of a 15 months old child, who had been nursed at the breast. A probable diagnosis of fibroadenoma was made.

Operation disclosed a hard, gray, bluish mass, the capsule of which was formed of the atrophied mammary tissues. Gross section of the tumor mass revealed a small cavity, the lining being composed of a reddish brown, soft, papillary tissue. The cavity contained about 15 cc. of a waxy, gummatous material. Microscopic sections of the cavity wall showed a granulating tissue, consisting of many vessels, lymphocytes, leucocytes and plasma cells. In the granulating tissue were many well defined giant cells. Bacteriologic examination was negative. However guinea pig inoculation resulted in the production of peritoneal tuberculosis. The pathological diagnosis was: Tuberculosis cold abscess of the breast with granulation tissue. This case can be considered as one of primary tuberculosis. Since the patient's child had nursed at the breast possibly during the formation of this lesion, she was examined for evidence of tuberculosis, which proved to be negative.

Case 2. Mrs. S. B. (Patient of Dr. E. P. Hamilton). Age 44 yrs. Widow. Entered the hospital 3/20/18, complaining of a hard lump in the right breast associated with pain and tenderness. She stated that three weeks previously she injured her breast on the mattress while turning in bed. Then the breast became tender and she noted the lump. At home hot packs were applied to the breast with

resulting redness of the skin but no improvement was noted.

The patient had had the usual diseases of childhood with good recovery. In addition, pulmonary tuberculosis in 1913, the sputum being positive for bacillus tuberculosis. During this time she had taken old tuberculin (Koch) and under general hygienic measures had improved. Her husband had died in 1910 with a tuberculous laryngitis.

Physical examination revealed the evidence of a partially healed pulmonary tuberculosis. The breast contained in the upper quadrant a mass the size of an orange, which was freely movable and slightly fluctuating. One small gland was palpable in the right axilla.

A radical breast amputation was performed. Gross section of the breast revealed a tumor, the center of which contained a fibro caseous mass. The axillary lymph gland contained smaller caseous areas. Microscopic section of the breast tumor contained small hyaline areas surrounded by masses of fibrous tissue, in which plasma and giant cells were located. The same was true of the lymph glands. The patient had a good convalescence and left hospital four weeks following operation.

Case 3. Mrs. A. T. (Patient of Dr. J. D. Griffith). Age 35 yrs. Housewife. Entered the hospital 6/13/17 complaining of a painful lump in the outer quadrant of the left breast. She had noted the mass about 4 months before and it had been slowly increasing in size. Aside from the above, she had no other complaint. Up to her entrance to the hospital she had been in good health.

Physical examination revealed a soft, tender, easily movable mass about the size of an egg in the outer quadrant of the left breast. There was no dimpling of the skin which was of normal color. Aside from the above the remainder of the examination was negative. A probable diagnosis of fibroadenoma with cystic degeneration was made.

Operation disclosed a tumor mass, the capsule composed of atrophied breast tissue. The interior of the tumor contained a cavity with about 20 cm. of granulous yellow cellular debris. The wall of the cavity was thick with papillary excrescences of a brownish red tissue. Microscopic examination of the cavity wall revealed a tissue consisting of numerous leucocytes, lymphocytes, plasma and giant cells, in addition to numerous small tubercles. The pathological diagnosis was, tuberculous abscess of breasts with granulation tissue.

706 Rialto Bldg.

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THE JOURNAL

OF THE

Missouri State Medical Association

JUNE, 1927

EDITORIALS

WASHINGTON SESSION OF THE A. M. A.

The annual meeting of the American Medical Association at Washington, May 16-20, was one of the busiest sessions that organization has held in recent years. It was a highly successful meeting from the standpoint of entertainment, scientific accomplishments and business transactions.

President Coolidge conferred on the organization the distinction of his approval of the scientific attainments of the American Medical Association and delivered a most inspiring address before the assembly. Unfortunately, not all those who had tickets of admission to the hall could gain entrance. The capacity of the hall was taxed to its utmost by the 6,000 who were admitted, but about 5,000 others were crowded in the streets unable to gain admission. On Wednesday afternoon the President again greeted the physicians on the White House lawn, braving very inclement weather to fulfill his appointment for the occasion.

The gathering was notable for the large number of ladies in attendance. This, perhaps, was to be expected in such a city as Washington where the opportunities for entertaining are superior to those of any other city and the beautiful buildings and parks furnish an added attraction to entice everyone who can make the trip.

The arrangements for the sections were admirable, all of them having good meeting rooms with ample seating capacity.

The House of Delegates was busy from the beginning of its session, Monday, May 16, until final adjournment late Thursday afternoon, May 19.

The installation of President Jackson was a notable occasion and his address evoked generous applause and unanimous approval. He has made a splendid impression upon all the members of the organization who have heard him speak and the demands upon him are so numerous as to tax his capacity to fill all engagements, and the outlook is bright for a brilliant year under his administration. In making his nomi-

nations for members of the various councils, Dr. Jackson nominated Dr. Emmett P. North, of St. Louis, to be a member of the Council on Medical Education and Hospitals and his nomination was unanimously confirmed by the House of Delegates. To this office Dr. North will bring his long years of experience with the State Board of Health and his intimate contact with licensing conditions throughout the country which have given him an insight into problems of medical education that will make him a valuable member of this Council.

Dr. William Sidney Thayer, of Baltimore, emeritus Professor of Medicine in Johns Hopkins University, was elected president-elect.

Kansas City made a strong bid for the Association to meet there in 1928, but Minneapolis proved too strong a contender and won the decision.

The total registration was 6,273, the number of Fellows from Missouri being 114.

The marriage of Dr. Emmett P. North, one of our delegates, to Mrs. Carolyn Tweedie, of Jefferson City, furnished a pleasing surprise party for the Missouri Fellows. The wedding took place at noon on Thursday, May 19, in the Presidential Suite of the Mayflower Hotel and was followed by a luncheon given by Dr. and Mrs. Jabez N. Jackson. About thirty guests were present.

THE LICENSE OF R. B. HORTON REVOKED

Just as we are going to press we learn that the State Board of Health revoked the license of Ray B. Horton, of Purdy and Kansas City, Missouri, for misrepresentation of his preliminary and medical educational qualifications. The Board heard evidence in the case for two days and rendered its decision late on the night of May 26. We expect to have a full account of the trial in our next issue. It is said that Horton has appealed to the circuit court but according to the statute the revocation stands pending a decision by the court.

The Board of Health is to be congratulated upon its action in revoking the license of this notorious person. The evidence of fraud in obtaining the license was overwhelming and the statute is plain that the Board may revoke licenses "granted on false and fraudulent statements."

ON THE POLITICAL PIE COUNTER AGAIN

The removal of Dr. Johns, State Health Supervisor, and Dr. Biggs, for fourteen years

Superintendent of State Hospital No. 1, at Fulton, is a frank declaration that the Eleemosynary Board has ceased to function as a nonpolitical body. When Governor Baker made a political football of the board two years ago by demanding the appointment of two political supporters as stewards, one of them a brother-in-law of the governor, we hoped the contamination was to be limited to the non-medical departments of the institutions so that physicians accepting appointments could feel secure in their tenure of office and apply themselves to the scientific care of the inmates. The Board's recent action however in removing two of the most outstanding members of the medical staffs reduces every medical officer to the status of a political employee and again puts the eleemosynary institutions on the political pie counter.

There is nothing we can add to the condemnation of the Board's action expressed in the press and in the statements of Dr. Pearse and Dr. Breuer. The people cannot be fooled on this question for it touches too many of them in a tender spot, especially those who have relatives in the institutions. We can only await the opportunity to profit by this heartless thwarting of the intent of the law and endeavor to prevent a repetition by statutory limitations of the Board's powers.

CHARTER REVOKED

The State Supreme Court rendered a judgment on May 23 declaring the charter of the St. Louis College of Physicians and Surgeons revoked. The decision was concurred in by all the judges.

As is well known, the St. Louis College of Physicians and Surgeons was the hub of the medical diploma mill which was exposed in 1923 and found to have ramifications in all parts of the country. The Supreme Court based its decision on the findings of the Special Commissioner, Mr. J. E. Bean, who was appointed to hear evidence in the case in 1925. This evidence showed that Dr. Waldo Briggs, the owner of the institution, and Dr. Robert Adcox were in collusion to obtain students for the college and that Adcox was to receive one half of the tuition fees. Adcox, it was shown, obtained students and provided them with false certificates of credits and that Briggs accepted these certificates and gave the students advanced standing in the school although he knew the certificates were fraudulent. It was also shown in the evidence that Briggs was one of the principal advocates of the omission from the statutes of the word "reputable," as defin-

ing a medical school of good standing, in the legislature of 1921.

With the revocation of the charter of the St. Louis College of Physicians and Surgeons that unsavory name will disappear from the records but the court's action has not closed the school for a new charter was obtained some time ago by certain persons identified with the P. & S. School under the name of the Missouri School of Medicine and Science. This institution is now operating at the old stand so long occupied by the P. & S. School. Since it has no standing with any medical examining board in the country as far as we are aware, its graduates, if it lasts long enough to issue any diplomas, will find difficulty in obtaining a license to practice in any of the states.

NOT REPUTABLE

The Supreme Court has decided that the Kansas City University of Physicians and Surgeons is not a reputable medical school. This ruling disposes of the suit which that school brought against the State Board of Health in 1923 to compel the Board to recognize its graduates after the Board had declared the school not reputable because it failed to comply with the rules either in equipment or curriculum. It is reported not recognized by the licensing boards of forty-seven states. Incidentally, the decision also disposes of the million dollar suit brought against individual members of the Board and of the State Medical Association.

THE POPLAR BLUFF DISASTER

We are sure our members will be interested in knowing how the physicians in Southeast Missouri responded to the needs of the physicians and citizens of Poplar Bluff following the disastrous tornado that wrecked the city on May 9. The story is a thrilling one and is thrillingly written by Dr. T. C. Allen, Bernie, whose account follows:

At 3:13 p. m., Monday, May 9, 1927, the greater part of Poplar Bluff, Mo., 160 miles south of St. Louis, on the Missouri Pacific Railway, was completely destroyed by a tornado.

Poplar Bluff (so named because the bluffs overlooking beautiful Black River where the city is built were originally covered by a growth of giant poplar trees) was a queen city which, like ancient Rome, sat on her seven hills and ruled her miniature world. And she had a right so to rule. She was a thriving, prosperous city of 10,000 con-

tented, intelligent, energetic, ambitious people, next to Cape Girardeau the metropolis of Southern Missouri. She was a city of hospitals and many philanthropic activities. She was a city of learned, high class, ethical professional men and of wide awake publishing plants, carefully and faithfully serving and covering a great field. She was a city of refined, cultured people and social customs and activities.

She was one of the greatest woodworking manufacturing centers of the South. She was a great railway center, the junction point of two great valley railway systems, the Missouri Pacific and the Frisco, and a junction and division point for two lines of the Missouri Pacific. She was an important center of auto routes and highways, hundreds of autoists passing daily through this natural gateway to the beautiful Ozark country to admire her beauty and her thrift. Here converged highways from Cairo, Sikeston and Cape Girardeau on the east, from Little Rock and Memphis on the south, from Springfield, West Plains and Thayer on the west, and from St. Louis, Fredericktown and beautiful Arcadia on the north. She was a city of strong banks and great mercantile houses, both retail and wholesale. She was a natural trade center for a rich domain with a radius of sixty or seventy miles.

And then on that fateful Monday came the Storm King and all of this lay prone and helpless. He made a few giant strides from Texas, the home of big things, tapped his warning finger on a few points in Arkansas and then, with a mighty grasp, caught this rich prize in his iron fist, shook it and crushed it and rended it until he had spent his strength; left it broken, bleeding and torn, terrorized and subdued, then made a mighty leap to Decatur, Illinois, and disappeared.

Reports stated that the storm traveled at a rate of eighty miles an hour; a medical friend told me that it must have had a twisting velocity of five hundred miles an hour. It was said the storm lasted but three minutes—this same gentleman told me it could not have lasted more than three seconds. At any rate the city that men had been for sixty years patiently and conservatively building was left a distorted, misshapen mass of debris in the twinkling of an eye. The wind gone, a deluge of rain fell for three hours, flooding everything that had been wrecked, drenching the injured and the rescuers.

The toll exacted was staggering—eighty-

eight dead, more than three hundred injured, three hundred and twenty-five families rendered homeless or their homes more or less damaged to say nothing of the havoc in the business section. The storm direction was from southwest to northeast and it plowed a path a quarter of a mile wide and three and a half miles long through the heart of the city. First a gentle tap wrecked the modest cottages on Vinegar Hill, a suburb to the southwest, and left three hundred homeless. Then, warming to the task, the tornado struck with all its might the thirty-five blocks in the heart of the business district, and substantial two and three and four story buildings were heaps of brick and stone, mortar and iron. Then, leaping Black River, it took a parting tweak at the humble homes of the factory workers on the east side. Here a large ward school was demolished and four children killed. The property loss is more than \$5,000,000 with about \$1,500,000 tornado insurance. Many threatening fires were prevented by the downpour of rain following the storm.

No pen, no human tongue can possibly describe the scene. There were no streets; they were filled with rubbish. There were no buildings; what had been fine structures were now roofless walls, leaning, twisted, unsafe, unsightly. Apparently the roofs were lifted and walls collapsed, sometimes outward, sometimes inward, and only piles of brick and timber and tin and mortar were left. Not a single building in the business district escaped damage. The federal building was least damaged.

The storm gone, consternation, even terror reigned. The light and telephone systems were put out of commission. Fortunately, the water and sewer systems were uninjured. Darkness reigned, orderly communication was impossible. No one knew just what had occurred; it all seemed a weird nightmare. Uncertainty, panic seized almost every one. Screams of those in pain and distress and cries of seekers for lost ones only added to the confusion. But a few of the more sturdy characters began to bring a semblance of order out of chaos.

The medical men of the city proved themselves heroes in the great emergency. Not one of the seventeen physicians in the city was injured and not a drug store was put entirely out of commission. The work of these physicians was admirable. They labored incessantly for forty hours without sleep, with little food, while drenched to the skin from the rain. The cooperation of the profession and the laity was wonderful.

Most wonderful of all was the spirit of the surrounding towns. An hour and a quarter after the news of the disaster reached Doniphan, forty-five miles away, the local military company was in uniform and ready to start. The companies from Dexter and Sikeston, twenty four and forty eight miles east, were there in a few hours. An hour and a half after the news was received at St. Louis the Missouri Pacific Railway had a train ready to start with physicians, nurses and supplies. Governor Baker came on this train. Physicians came from every town within a radius of fifty miles. A local physician told me that he verily believed there were two volunteer physicians for each case needing care. Many physicians brought the community nurses from their counties.

The first seven hours were given to rescue work and in getting victims into the temporary quarters. Emergency hospitals were established at the High School, the Christian Church and the Williamson - Kennedy School. The Brandon Hospital was demolished and the Lucy Lee Hospital was unroofed so neither one was available. The inmates were removed to other quarters in a drenching rain but not an untoward result is reported. In the temporary hospitals surgeons worked by the light of flashlights and torches and lanterns. All drug stores were thrown open by their proprietors for any supplies and medicines needed. A local surgeon told me that with all the handicaps under which they worked he knew of but one case of infection. The cooperation of the citizens was wonderful. My medical informant told me that when the first patient arrived at the High School temporary hospital, ladies were already there with cots and blankets and other needed things. When the Red Cross came on the scene the second day the officer in charge said he found little to do—everything had already been done. The local profession seems to never tire of praising the wonderful spirit of fraternity shown by the neighboring physicians and the laity. They especially praise the fine consideration and considerateness shown them by the Red Cross nurses and they feel that enough cannot be said in praise of the Red Cross.

Morgues were established at the two undertaking houses where the dead were received and the bodies held until identified and claimed. They were taken from every conceivable place, from schools and homes, from stores and hotels and from off the streets. Some bodies were recovered from

wrecked buildings as late as two weeks after the disaster.

It has been said that "A little touch of humor makes the whole world kin." Let me paraphrase: "A large stroke of disaster makes the whole world kin—and kindly." Neighboring towns rushed food and cots and blankets and lanterns into Poplar Bluff. Laborers came from every town and volunteered their services to clear away wreckage without pay. Railroads, popularly supposed to be heartless, were ready with supplies and trains for transportation for any one who needed them. Doctors, lawyers, preachers, bankers, teachers, merchants, farmers, laborers worked side by side, stood guard by day and night over exposed property, willingly, cheerfully. Women cooked and cleaned and cared for the emergency hospitals gladly. One well-to-do woman took charge of and did most of the laundry for the emergency hospitals. My medical friend told me that he never saw so much handshaking and glad greetings in his life as he saw in the two days following the disaster. No one knew whether his friend was dead or alive until he saw him. I asked this physician about the damage to his office, for he had a magnificently equipped office. "Why," he said, "what does that matter? I had an office of which I was proud. Many curios and mementoes that I prized highly. They were all ruined and I am now in a fellow physician's office by courtesy. But I am here, my family was unhurt and almost all of my friends are safe; I was permitted to do my bit in caring for the distressed, so why think of the equipment of an office? It matters so little." I felt that I was fittingly rebuked when I looked at the fineness of this doctor's character. After all, what *does* a little property matter in the vital trials of life?

And now the work of rehabilitation and reconstruction has begun. The injured are all cared for, the dead are buried and the living are setting their faces with stout hearts toward the future. Sanitary precautions are being taken. A thousand people have been immunized against a possible epidemic of typhoid fever. The rubbish is being cleared away, the water supply is wholesome and uncontaminated, the sewer system is functioning and there is no indication of the appearance of any epidemic. The ever ready Red Cross is on hand with tents for temporary homes, with needed emergency supplies and ready to assist in the building of new homes to replace the old ones gone.

Plans are now under way to replace the old court house that was destroyed with a new one to cost \$300,000 and a new \$125,000 Y. M. C. A. will be built. Most of the business buildings destroyed will be replaced with better ones. The factories were not damaged and are operating full capacity, giving needed employment to labor. The better residence section was untouched. The fine spirit of Poplar Bluff is undaunted. She will rise, Phoenix-like, from the ashes of her disaster. Here is her slogan: "We are down but not out. Watch us come back." And she will. Her medical men have here shown that they can and will maintain the finest traditions of the profession.

The lesson: Pygmies of men! We build with all the assurance of our superior knowledge, and the King of all Things smites us in our pride and we are but the dust of defeat and humiliation.

NOTES

The insurance companies say this is the worst disaster to the business section of a city in the history of their business.

No church sustained more than minor damages. A pool hall was demolished and eight men killed in it.

In the injuries treated were two amputations and two trephines. There were many fractures and large numbers of superficial and minor injuries.

Secretary of War Davis was a visitor to the scene of the disaster some days after its occurrence.

It is estimated conservatively that 200,000 people have visited Poplar Bluff since the disaster. Automobiles, not allowed in the city by the military companies doing patrol duty because of impassable streets, were parked on each side of every highway leading into the city for a distance of three miles out for several days after the tornado.

A local dentist, working at his chair when the storm struck, was blown through the front of his office, the wall having preceded him, and neatly seated on the top of an automobile parked at the curb, uninjured.

Automobiles to a value of \$200,000 parked along the curbs when the storm struck were destroyed by falling walls. A few people sitting in them were killed and others injured.

NEWS NOTES

Dr. C. R. Haynes, formerly of Herrin, Illinois, is now located at Marshall.

The next meeting of the State Board of Health for the examination of applicants to practice medicine will be held in St. Louis, July 13, 14 and 15, 1927.

The United States Veterans' Bureau Hospital, Knoxville, Iowa, is in need of a specialist in pathology. Application for the examination for this position are now being received by the United States Civil Service Commission. Competitors will not be required to report for examination at any place, but will be rated on their education and training and their experience. Full information regarding requirements for entrance to the examination may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the United States Civil Service Board, Customhouse, St. Louis.

Examinations of candidates for entrance into the Regular Corps of the United States Public Health Service will be held August 8, 1927, at Washington, D. C., Chicago, New Orleans, and San Francisco. Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college and have had one year's hospital experience or two years' professional practice. Requests for information or permission to take this examination should be addressed to the Surgeon General, United States Public Health Service, Washington, D. C.

The annual picnic of the Adams County Medical Society of Illinois will be held on Thursday, June 16, at Camp Irwin, Martindale, a few miles south of Quincy on the Mississippi. It will be an all day affair with a chicken dinner served at noon, following which there will be an address on "Legislative Problems" by Dr. John R. Neal, Springfield, Illinois, Chairman of the Legislative Committee of the Illinois State Medical Society, and another by Dr. E. G. C. Williams, Danville, Illinois, on "Professional Collections." Every ethical physician in northeastern Missouri is cordially invited to be the guest of the Adams County Medical Society on this occasion.

The Medical Society of the Missouri Valley was founded in 1888 by Dr. Donald Macrae, Sr., of Council Bluffs, Iowa. It now has more than 500 members in the states of Iowa, Kan-

sas, Missouri, Nebraska and South Dakota. During the present year the Society is being reorganized with the object of making it more of a teaching organization. There are seven medical schools in this district that should furnish sufficiently abundant new material to make this one of the most worth while societies in America. At the coming meeting in Des Moines, September 14, 15 and 16, representatives from all of these medical schools will have a place on the program in addition to several local and nationally prominent men. Dr. Thomas G. Orr, Kansas City, is President; Dr. Charles Wood Fassett, Kansas City, Secretary; Dr. Donald Macrae, Council Bluffs, Iowa, Chairman of the Executive Committee.

The following articles have been accepted for*
New and Nonofficial Remedies:

Abbott Laboratories

Tablets Triturates Ephedrine Hydrochloride

—Abbott, 1/2 grain

Capsules Ephedrine Hydrochloride—Abbott,
3/4 grain

Ephedrine Hydrochloride Solution—Abbott,
3%

Neonal

Certified Laboratory Products

Ethylene—C. L. P.

Cutter Laboratory

Alkali Weed Pollen Extract—Cutter

All Scale Pollen Extract—Cutter

Box Elder Pollen Extract—Cutter

Burning Bush Pollen Extract—Cutter

Corn Pollen Extract—Cutter

Foxtail Pollen Extract—Cutter

Mountain Cedar Pollen Extract—Cutter

Tumbleweed Pollen Extract—Cutter

Western Water Hemp Pollen Extract—
Cutter

Fairchild Bros. & Foster

B. Acidophilus Milk—Fairchild.

Horlick's Malted Milk Corporation

Horlick's Maltose-Dextrin Milk Modifier

H. K. Mulford Co.

Lamb's Quarters Pollen Extract (Glycero-
Saline)—Mulford

Ragweed Pollen Extract (Glycero-Saline)—
Mulford

Timothy Pollen Extract (Glycero-Saline)—
Mulford

Wormwood Pollen Extract (Glycero-
Saline)—Mulford

Parke, Davis & Co.

Alfalfa Pollen Protein Extract Diagnostic—
P. D. & Co.

Glaseptic Ampoules Mercury Salicylate—
P. D. & Co., 0.065 Gm. (1 grain)

Glaseptic Ampoules Mercury Salicylate—
P. D. & Co., 0.13 Gm. (2 grains)

Glaseptic Ampoules Mercury Succinimide—
P. D. & Co., 0.01 Gm. (1/6 grain)

Kidney Bean Protein Extract—P. D. & Co.

Typhoid Vaccine (Prophylactic)

Typhoid-Paratyphoid Vaccine (Prophylac-
tic)

Sigurd E. Roll.

Viking Palatable Cod Liver Oil

E. R. Squibb & Sons

Ovarian Hormone—Squibb

Swan-Myers Co.

Ampoules Ephedrine Hydrochloride—Swan-
Myers, 0.05 Gm., 1 cc.

Capsules Ephedrine Hydrochloride—Swan-
Myers, 0.025 Gm.

Ephedrine Hydrochloride—Swan-Myers

Capsules Ephedrine Hydrochloride—
Swan-Myers, 0.0324 Gm. (1/2 grain)

Solution Ephedrine Hydrochloride—Swan-
Myers, 3%

United States Standard Products Co.

Rabies, Vaccine—U. S. S. P. (Semple
Method)

OBITUARY



DAVID HOUGH DOLLEY, M.D.

Dr. David Hough Dolley, St. Louis, died in El Paso, Texas, Monday morning, April 11, 1927, of a hemorrhage resulting from pulmonary tuberculosis.

Dr. Dolley was Professor of Pathology at the St. Louis University. Due to his ill health he obtained a leave of absence and left St. Louis, February 12, for El Paso. His condition improved rapidly, but he began to take exercises which proved too strenuous and brought on a fatal hemorrhage.

Dr. Dolley was born in Lexington, Va., July 18, 1878. He was educated at the Randolph-Macon College, and received his degree of Doctor of Medicine at Johns Hopkins University, Baltimore. Dr. Dolley served as Resident Pathologist at the Charity Hospital, Cleveland, and in the same capacity at the Lakeside Hospital. He was Professor of Pathology at the University of North Carolina Medical School from 1906 to 1910. From 1910 to 1922, he was Professor of Pathology at the University of Missouri School of Medicine. Since 1922, he was connected with the St. Louis University School of Medicine as Professor of Pathology.

Dr. Dolley was a member of the St. Louis Medical Society, the State Association and a Fellow of the American Medical Association, the American Association of Pathologists and Bacteriologists, the American Association of

Anatomists and many other scientific organizations. He was also a member of the Phi Beta Kappa, Sigma Xi, Phi Delta Theta and Phi Beta Pi fraternities. He was the author of many papers on pathology, physiology and normal and abnormal cytology.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1927

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Camden County Medical Society, December 31, 1926.

Holt County Medical Society, January 21, 1927.

Iron County Medical Society, March 4, 1927.

Madison County Medical Society, March 9, 1927.

Dent County Medical Society, April 2, 1927.

Ralls County Medical Society, April 4, 1927.

Platte County Medical Society, April 7, 1927.

Atchison County Medical Society, April 9, 1927.

Chariton County Medical Society, April 15, 1927.

Montgomery County Medical Society, May 7, 1927.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

One hundred and twenty-eighth meeting,
April 11, 1927

I. THE USE OF ETHYLHYDROCUPREIN IN LOBAR PNEUMONIA.—By MR. GEORGE S. WILSON.

A case of permanent impairment of hearing attributable to the toxic effects of ethylhydrocuprein is reported. In this instance deafness and tinnitus resulted from the administration of two 0.26 gm. doses of ethylhydrocuprein (numoquin) base in the treatment of lobar pneumonia one year ago. After discontinuation of the drug the hearing improved gradually for six months. Since that time the condition has been stationary with a definite hearing defect persisting.

Attention is directed to the fact that small amounts of ethylhydrocuprein may produce toxic symptoms referable to the ear and eye. These toxic effects are usually transient but, in some instances, permanent damage of a serious nature has resulted.

Although the in vitro and animal experiments upon ethylhydrocuprein indicate a possible therapeutic usefulness for the drug, the clinical results have been discouraging. The work of Moore and Chesney has demonstrated that ethylhydrocuprein has failed to influence favorably the course of lobar pneumonia, because its toxicity is such as to keep the limits of dosage below the limits of effectiveness.

In view of the toxic action of ethylhydrocuprein and the absence of convincing evidence of its therapeutic value, it is concluded that until new and

favorable evidence of its therapeutic value is forthcoming the routine use of the drug in the treatment of lobar pneumonia should be discontinued.

DISCUSSION

DR. DAVID P. BARR stated that in the earlier cases treated by the drug unfavorable doses were employed and toxic results were common. Later, with smaller doses there were fewer toxic symptoms. Lobar pneumonia varies so that it is difficult to establish the validity of treatment by any given method. The most optimistic reports of the use of the drug occur in the reports from the manufacturers. However, he believed that the use of numoquin should be discontinued until it is proved safe to use since its efficacy is still to be proved.

2. PRESENTATION OF CHONDROMATA.—By DR. C. A. STONE.

The specimens, X-rays, and photographs were shown because of the possible interest in their great size and the similarity in the period of time covered by their rapid growth. Five were of men, one of a woman. One taken from the lower end of the femur (male) was a typical cauliflower like growth on a pedicle showing the great difference in its size when compared to the large ones. Three had their origin from the right pubic bone and were of enormous size. One of them was in a woman, having recurred after removal four years previously. A negro patient had a huge mass origination from the right scapular spine. It had been excised four years previously but was larger at the second operation than at the first. The remaining tumor had been present in the os calcis for thirty-six years but only took on rapid growth four years ago. Amputation of the foot was necessary.

DISCUSSION

DR. ALBERT KEY mentioned the wisdom of remembering that these tumors are multiple, since the finding of one enchondroma usually means that others are present. He believed it best to excise them close to the bone when possible.

DR. FRED A. JOSTES stated that X-ray therapy is not effectual. In the case of pelvic tumor reported, the tumor decreased in size after the wound became infected.

DR. CHARLES A. STONE, in closing, emphasized the difficulty of completely removing such tumors in every case. For example, one of the pelvic tumors reported could not have been excised without removing at least half of the pelvis.

3. THE SOMATIC EXPRESSIONS OF EMOTION.—By DR. VAL SATTERFIELD.

The large group of cases in which physical and laboratory findings are insufficient for explanation of the complaints is being studied psychiatrically for their individual somatic expression patterns. Emotion is, or is accompanied by, diffuse muscular vasomotor, sympathetic and parasympathetic displays. Each individual has his peculiar pattern of emotion and somatic expression. The variants are the arrangement of the coloring, the intensity and periodicity of the waves and the threshold above which somatic awareness appears. These patterns are molded by human contacts and are hardened, and the somatic expressions habituated by repeated experiences. The somatic expressions may be grouped as syndromes, cardiac, gastro-intestinal, respiratory, muscular, etc., whose rising intensity can

be definitely correlated and graphically illustrated with a definite degree of emotion fluctuation.

Case material was given which supported the preceding ideas in depressive reactions. The types of depressive reactions from states with mental topics and somatic expressions without awareness to somatic expression awareness without mental topics. All degrees are shown to exist. The types of reactions depending upon degree of awareness and varying substitutive mechanisms were discussed. So called hysteria reactions may be but very intensive syndrome displays. The nature of the habituation mechanism and examples of its existence as an independent dynamic entity were outlined.

The cases are studied socially by a social worker, Miss Janet Mayer, and the data and patient studied psychiatrically by the physician.

DISCUSSION

DR. SIDNEY SCHWAB believed that an understanding of the mechanism causing these disturbances is essential to their proper therapeutic approach. They cause much suffering to the patient and the therapy has been unsatisfactory up to the present. Their patterns are becoming well recognized. The study of these patients is difficult because they cannot always be made to realize that an intimate knowledge of the situations out of which these emotions are aroused is necessary for proper therapy.

DR. DAVID P. BARR recalled having seen some of these patterns during the war and realized the importance of careful study of the individuals who are subject to these pattern reactions.

BATES COUNTY MEDICAL SOCIETY

The April meeting of the Bates County Medical Society was called to order by the president, Dr. H. W. Insley. The following members and visitors were present: Drs. Smith, Love, Yater, Hornback and Dulin of the Vernon-Cedar County Medical Society, Drs. James R. Elliott and Albert N. LeMoine, Kansas City, and Drs. Robinson, Luter, Insley, Rhoades, Freeman, Chastain, Newlon, Crabtree and Thiele of our own Society.

Upon the suggestion of the president, the order of business was postponed until after the program.

A paper on "The Commoner Disorders of Potentially Normal Feet" was presented by Dr. James R. Elliott, Kansas City. Dr. Elliott's paper was extremely practical and intensely instructive. There was a great deal of interesting discussion relative to the diagnosis and treatment of disorders of the feet. Dr. Dulin's allusion to the history of the diagnosis of flat foot was quite unusual and added an interesting touch.

Dr. Albert N. LeMoine, Kansas City, read a paper on the subject of "Headache." Dr. LeMoine paid particular attention to headaches resulting from infection of the sinuses, ocular headaches, migraine and headaches due to protein sensitization. Free discussion of the subject was very helpful.

The Society feels that programs on such practical subjects are, many times, more valuable than those in which more unusual or complicated disease conditions are discussed. The meeting was thoroughly enjoyed by each one present.

After the program the visiting members were excused and the order of business taken up.

The next meeting of the Society will be held Thursday, May 26.

GEORGE H. THIELE, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met Thursday, April 28, at the popular cafe in Liberty known as The Party Place. Thirty members and their wives were seated at a special six o'clock luncheon. Let me say, parenthetically, that some of us of the seer persuasion predict the waning, if not the passing, of the county medical society. Not in a thousand years, dear prophet. Our Society grows in size, age and interest. Try taking your wife with you.

At this meeting, Mrs. Ralph Davidson, one of Liberty's most talented club women, gave an impressive reading by special invitation on the life of the beloved Osler. Mrs. Davidson paid a lay tribute to the great physician and humanitarian that might have aroused the envy of the skilled medical writer. She received merited applause.

Dr. J. J. Gaines read from his own book a short dialect poem, "Wal—I—Swan!"

Dr. Buford Hamilton, Kansas City, delivered the address of the evening, "Some Problems in Obstetrics." The Doctor spoke without notes and held profound interest throughout the hour. His topic, of interest to everybody, covered the field in every important particular; the do's and don'ts were backed up by experience. Dr. Hamilton is a fluent speaker, in style copying wonderfully the teachers of obstetrics in the post-graduate schools of the east. A full discussion followed, entered into by the best obstetricians of our Society, and it all made excellent listening.

A vote of thanks was unanimously voted the Doctor at the close.

Mrs. Hamilton was an interesting and appreciated visitor to our Ladies' Auxiliary, which met concurrently.

Several of our members paid their dues.

J. J. GAINES, M.D., Secretary.

GASCONADE-MARIES-OSAGE COUNTY MEDICAL SOCIETY

The Gasconade-Maries-Osage County Medical Society met at Belle, April 28. On account of the small number of members present, the election of officers was postponed until some time in the near future.

W. R. FERRELL, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The Jasper County Medical Society met in regular session April 26 at the Joplin Y. M. C. A. at eight p. m., with the following members present: Drs. L. C. Chenoweth, S. A. Grantham, U. G. Hoshaw, S. H. Miller, R. L. Neff, and G. K. Sims.

Guest present: Dr. Ralph E. Duncan, Kansas City.

On account of a lack of sufficient number present to constitute a quorum, the reading of the minutes of April 19 was postponed until a future time and the meeting was given over to the presentation of case reports which really terminated in a clinic as evidenced below.

Dr. S. A. Grantham presented a case of a woman 20 years of age who appeared at his of-

fice on April 3, 1927, complaining of pains radiating from the level of the second and third lumbar vertebrae around to her sides which had been constantly present while she was in the upright position over a period of twelve months, following an accident at which time she was run over by a car.

Physical examination. Roentgenographic plates revealed a fracture of the second lumbar vertebra which had been reduced to a wedge. The third lumbar had been fractured through its body and the fragments displaced slightly with the line of fracture still evident and the parts ununited.

Operation. Through a transverse incision of one inch in length, using a $\frac{3}{8}$ inch tunneling osteotome, a tunnel was driven from the fifth lumbar vertebra upward sectioning the posterior processes just posterior to the lamina through the fourth, third, second and first lumbar vertebrae. A graft about $\frac{3}{8}$ inch in width, including the entire cortex of the bone, was then secured from the anterior surface of the tibia and placed in the tunnel. Skin incisions in the back and shin were closed by a subcuticular suture of catgut.

On the third day following the operation, patient said she was free from pain and sat in the upright posture. At the end of a week she walked without discomfort. Two weeks following the operation she was discharged from the hospital and rode home in a car without any sense of pain or discomfort.

Today, the seventeenth day following the operation, the doctor said the patient came to his office and he brought her with him this evening to show the result of his operative procedure. He stated that she walked unaided up the three flights of stairs and that the only discomfort she felt was a slight stiffness about the scar on the shin from which the graft was removed. The patient stoops and picks articles from the floor with such ease as though she had never sustained an injury.

While Dr. Grantham said that he had not advised the patient to do these stunts he sees no particular reason for her not doing them since no pain is occasioned thereby.

This operative work of our fellow clinician is another illustration of a well known fact that a fractured spine, properly secured by immediate splinting where no irritation of the spinal nerves is present, is made comfortable. The method used is simple, sufficiently strong to retain a fixed position and produced less trauma probably than any other known method, and certainly the shortened invalidism following this method is a revelation as compared with that following other methods for correction of similar defects.

For the meeting of May 10, Drs. Hall, Koritschoner and Duncan of the Duncan Laboratories, Kansas City, together with Dr. H. D. McGaughey, Joplin, will be presented in a program which will be devoted to the "Clinical and Pathological Conditions of the Liver and Gallbladder."

In February the Duncan Laboratory clinicians gave us a program on "The Diseases of the Kidney," at which time a large number of doctors from four adjacent states were present. Because of the excellence of their presentation they are to return, and we hope to have even a larger representation of the profession present than at the former meeting.

Meeting of May 10

The Jasper County Medical Society met in regular session at 7 p. m., at The Broadlawn where dinner was served to the members and out of town guests. A Jazz Orchestra furnished music during the dinner, following which an interesting group of piano and song numbers given by Mesdames Harold Cragin and Don McKee were keenly enjoyed. The latter entertainers then joined in with the doctors in the singing of several popular songs which served to awaken a genuine feeling of good-fellowship. Later in the evening an octet of male voices interpolated the scientific program with a group of part songs.

The members and guests were as follows: J. G. Conley, R. E. Jenkins, O. B. Kiehl, and C. S. Newman, Pittsburgh, Kansas; H. K. Miller, Fairland, Oklahoma; B. J. McKay and J. F. McNaught, Girard, Kansas; E. C. Lightfoot, Arma, Kansas; R. C. Lowdermilk and P. W. Upshaw, Galena, Kansas; M. M. DeArman, W. A. Sibley, F. L. Wormington and Dr. Merriweather, Miami, Oklahoma; LeRoy Baxter, Columbus, Kansas; R. E. Duncan, F. J. Hall and R. Koritschoner, Kansas City, Missouri; O. L. Alberty, Carl Junction; L. B. Clinton, C. M. Ketcham, E. L. Ketcham and H. A. LaForce, Carthage; R. C. Lamson and C. E. Maness, Neosho; B. A. Dum-bauld and R. M. Stormont, Webb City; W. R. Gaddie, Duenweg; C. M. Balsley, J. W. Barson, J. A. Chenoweth, L. C. Chenoweth, A. B. Clark, W. E. Craig, C. C. Cummings, S. A. Grantham, A. M. Gregg, E. R. Hornback, U. G. Hoshaw, M. B. Harutun, E. D. James, R. M. James, G. K. Kaemmerling, H. A. Leaming, W. H. Mallory, E. E. Moody, R. E. Myers, S. H. Miller, R. L. Neff, C. T. Reid, G. K. Sims, J. L. Sims, R. A. Thornton, J. I. Tyree, A. R. Snyder and W. W. English, Joplin.

Following the dinner President L. C. Chenoweth announced to the satisfaction of all present that the Jasper County Medical Society, as well as the physicians of the entire district, will on June 10 have as their guest, Dr. Charles H. Mayo, Rochester, Minnesota, at which time he will address the Society.

The first speaker of the evening, Dr. Robert Koritschoner, was then introduced and made a talk on "The Pathologic Anatomy of the Liver." He presented slides, as well as pictures, of a normal liver to make clear its circulation.

Museum specimens and microscopic slides of the different types of the cirrhoses, as well as the different types of syphilis of the liver, were demonstrated. He concluded his paper by pointing out the occurrences of malignant tumors in the liver and bile ducts.

Dr. Frank J. Hall made a talk on "The Physiopathology of the Liver," in which he pointed out that much physiological damage may be done to the liver, as well as to its functional satellite, the spleen, without clinical manifestations in either, due, in all probability, to the fact that the liver has such a large reserve of power stored in its parenchymatous mass.

On account of the possibility of toxic damage which may be done to a structure already low in function from disease, Dr. Hall is not wholly in accord with the idea of trying to invent laboratory approaches to the physiological measurements that may be applied to one or several hepatic products, but hopes that such productions be applied to some of the natural products of hepatic

metabolism rather than to the dye stuff estimations that are used and which, he says, are open to grave criticisms.

Further, he stated that at the present time van der Bergh's procedure, aiming as it does to quantitatively measure bilirubin in the blood serum, both of intrahepatic origin as well as of that resulting from systematically destroyed red blood corpuscles, promises most to physicians who will take the time to evaluate intelligently the findings in light of accessory factors. The icterus index which measures the serum bilirubin recommends itself strongly because of its simplicity, is becoming more widely used and is giving an increasing amount of enlightening experience.

In closing, the essayist expressed a hope that by the use of clinical and chemical measures now available the huge amount of blundering thinking, as well as misguided surgical and drug therapy applied to liver diseases, would be made avoidable. He said also that the internist will have methods by which he may judge with some degree of accuracy the functional capacity of the liver in the different stages of diseases which particularly damage that great chemical laboratory of the body.

Dr. Ralph E. Duncan briefly mentioned that the bromsulphthalein test, as well as various other sugar tests, are of little practical value. The van der Bergh's and icteric index on the blood serum and the urobilinogen test on urine, however, are distinctly valuable aids to diagnosis and therapy control in liver dysfunctions. By means of the former one is aided in differentiating the primary and secondary anemia by separating hemolytic from nonhemolytic jaundice. In studying functional changes of the liver brought about by mechanical injury, infection or toxic factors, Dr. Duncan stated that daily feeding of liver in any stage of pernicious anemia patients is the best therapeutic remedy we have today for that particular type of anemia and that it will build up the red blood count and hold it. He stated also that these patients should eat some other kind of meat at each meal. It was made clear, however, that the liver therapy did not reduce or abort the nervous symptoms.

Relative to liver extract, he stated it had no practical value in treating hypertension cases since results obtained to date seemingly have been due to other factors included in the regime of treatment.

Meeting of May 17

On account of the small number of members present, no meeting was held. The following members attended: Drs. L. C. Chenoweth, E. D. Hatcher, S. H. Miller, R. L. Neff and G. K. Sims.

Meeting of May 24

The following members were present: Drs. L. C. Chenoweth, C. C. Cummings, S. A. Grantham, R. L. Neff, G. K. Sims and J. L. Sims.

There being no quorum present, all business was tabled for a future meeting and the meeting was given over to Dr. S. A. Grantham who gave an interesting clinic.

Case 1 was a boy about years of age, with talipes equinovarus. The patient since infancy had walked upon the dorsal surfaces of both feet. By proper surgical procedure the condition had been over-corrected and the feet put up in plaster-of-Paris casts. Six weeks following the operation shows evidence that so far excellent results have been obtained and that with a further correction the individual will be

enabled to walk upon the plantar surfaces of his feet.

Case 2. Boy about four years of age, who in infancy sustained a severe burn of the left hand, resulting in a Dupuytren's contracture. Inasmuch as the little finger was totally absent, the distal phalanx of the ring finger gone and the skin of the palmar surface of the hand and wrist so severely burned that it caused the remaining fingers of the hand to be completely flexed, the hand had been rendered totally useless. Dr. Grantham removed the scar tissue, straightened out the fingers, turned down a flap from the abdomen, sutured it on three sides to the open wound of the palm and within a week's time cut the flap from the abdomen and completed the graft, which had healed perfectly, giving a soft, thick pad for the palmar surface and restoring usefulness to the hand. While there still remains some scar tissue which causes a slight lateral retraction of the hand, the clinician intends to correct this defect at an early date.

Case 3. On April 26, 1926, Dr. Grantham reported a case of an injured spine which was reported in the transactions of the Society in a recent issue of *The State Journal*. Dr. Grantham presented the patient to show the effectiveness of the operative procedure in this particular type of case, as well as to confirm his former statement relative to the shortened convalescence.

GEORGE KIRBY SIMS, M.D., Secretary.

LINN COUNTY MEDICAL SOCIETY

The Linn County Medical Society met at Brookfield, May 11.

A paper on "Toxin Antitoxin" was read by Dr. Roy Haley, Brookfield.

Dr. Ola Putman, Marceline, presented a paper on "Treatment of General Peritonitis."

The Society presented a check of \$25 to Dr. J. L. Perrin, who has been incapacitated for a number of years.

A luncheon was served following the meeting by the Brookfield doctors.

OLA PUTMAN, M.D., Secretary.

SALINE COUNTY MEDICAL SOCIETY

The Saline County Medical Society met at the Goodwin Hotel, Marshall, May 17, with fifteen members present.

After the transaction of routine business, Dr. W. A. Shelton, Kansas City, read a very interesting paper on "Gallbladder Problems."

The Society decided to meet at a picnic in June, at which time Dr. Donald R. Black, Kansas City, will present a paper on "Pernicious Anemia."

ST. LOUIS COUNTY MEDICAL SOCIETY

The St. Louis County Medical Society met in the Directors' Room of the Webster Groves Trust Company, Webster Groves, May 11, at 3:00 p. m. The following members were present: Drs. Irene M. Blanchard, J. H. Armstrong, Frank P. Knabb, F. P. Gaunt, R. B. Denny, Horine Miles, D. Henry Hanson, G. Jones, W. F. O'Malley, J. A. Townsend, O. N. Schudde, H. N. Corley and C. C. Irick.

It was moved by Dr. J. A. Townsend, seconded by Dr. G. Jones, and carried, that the regular order of business be suspended and that Dr. Drew Luten, St. Louis, read his paper.

Dr. Luten's paper on "Action and Clinical Use of Digitalis" was illustrated by lantern slides. He demonstrated the effect of large adequate dosage of digitalis in decompensated or "heart failure" patients. He emphasized the fact that digitalis, which is a

toxic agent, should not be given in case of acute sickness or toxic condition, such as acute endocarditis, myocarditis and pericarditis; that digitalis probably did not slow the heart rate in normal individuals and that the effect of digitalis was perhaps directly on the heart muscle.

This subject was discussed by each member present. Several interesting cases were reported and opinion as to treatment given by Dr. Luten.

A rising vote of thanks was given to Dr. Luten.

A report of the State Medical convention was given by Drs. R. B. Denny and Horine Miles.

CARL C. IRICK, M.D., Secretary.

STODDARD COUNTY MEDICAL SOCIETY

The Stoddard County Medical Society held its bi-monthly meeting at the office of Dr. W. C. Caldwell, Bloomfield, Wednesday evening, May 4, 1927. Those present were: Drs. J. M. Page, Puxico; R. F. Tarpley, Swinton; C. E. Lewis, Advance; Eldon Phillips, S. S. Davis and Wm. C. Caldwell, Bloomfield; Frank LaRue, Wm. C. Dieckman and C. L. Bennett, Dexter; Thomas C. Allen, Bernie. Dr. Goad, of Bernie, was a visitor.

The subject considered at this meeting was "Summer Diarrheas in Children." Drs. Phillips and Bennett read papers on the cause and treatment of this disease, respectively. The papers were excellent and were ably and exhaustively discussed by all present.

Dr. John L. Craig was granted a transfer to the Jasper County Medical Society, having moved from Dexter to Webb City some time ago. The Society sincerely regrets to lose Dr. Craig, for he is an able physician and a man of high character.

It was unanimously agreed to hold the July meeting at Van Buren, thus combining a scientific meeting with an excursion to Big Springs, Missouri's most scenic state park.

W. C. DIECKMAN, M.D., Secretary.

WRIGHT-DOUGLAS COUNTY MEDICAL SOCIETY

The Wright-Douglas County Medical Society met in the Casey Theatre, at Mountain Grove, Thursday afternoon, April 28. The following members were present: Drs. A. C. Ames and R. A. Ryan, Mountain Grove; J. A. Fuson and R. M. Rogers, Mansfield; R. M. Norman, Aya. Dr. J. C. B. Davis, Willow Springs, was a visitor.

The meeting was opened by Dr. Rogers, the President, and minutes of the last meeting were read and approved. A financial statement was read showing a balance of \$62.26 in the treasury, of which \$50 was on time deposit drawing interest.

Dr. James Robert Davis, of Noble, having been a faithful member of our society for nearly thirteen years, and being past seventy years of age, it was voted to make him an honorary member with all privileges of a regular member but without further payment of dues. Dr. Davis is now paralyzed and unable to work.

Several members are in arrears for three years' dues and one is in arrears for four years' dues. It was voted to suspend these members unless they are paid up within thirty days.

Dr. J. A. Fuson reported some very interesting cases but are not reported here in detail as the secretary was called out on a confinement case at that time.

A. C. AMES, M.D., Secretary.

WOMEN'S AUXILIARY

THIRD ANNUAL MEETING

At the Third Annual Meeting of the Women's Auxiliary held at Sedalia, May 3 and 4, 1927, the following resolutions were adopted:

1. That since the recommendations of the Chairman of Organization have met with the approval of the Auxiliary, we refer to the committee on amendments to the constitution, to be presented at the next annual meeting, the following:

Presidents of the county auxiliaries shall, by virtue of their office, be members of the State Executive Board, and that this committee consider creating an executive council consisting of the president, president-elect, vice presidents, secretaries and treasurer, to transact the business of the Auxiliary between the meetings of the General Board.

2. (a) That each county auxiliary endeavor to have at least one Hygeia program at each parent-teachers' circle during the coming year. (b) That the Seymour Plan for disease prevention be continued and that we use our influence to persuade physicians' families to be immunized against diphtheria and vaccinated against smallpox. (c) That we attempt to have an auxiliary member placed on each council of Girl Scouts, Girl Guides, Campfire Girls, Child Nurse or any other organization giving instruction in first aid, home care of the sick, etc.

3. (a) That county Hygeia chairmen be appointed and that their names be forwarded to the State Chairman. (b) That the auxiliaries continue their efforts to interest their own members to subscribe for and to read Hygeia. (c) That the auxiliaries attempt to have a discussion of the value of Hygeia to school health work on one program at county teachers' meetings. (d) That Hygeia continue to be placed in public reading rooms. (e) That the auxiliaries petition county superintendents of schools to recommend Hygeia as a reference in the teaching of physiology and hygiene. (f) That the auxiliaries attempt to secure the cooperation of the newspapers in publishing excerpts from the news sheets of Hygeia. (g) That each county auxiliary pledge its moral support to reach the Hygeia quota assigned to it.

4. That the State and county auxiliaries cooperate with the Missouri Society for Crippled Children in their work for the crippled child.

5. That the county auxiliaries be urged to cooperate with the State Health Department in the formation of the county May Day committees and assist in every possible way in carrying on the county May Day work.

6. That since the State Tuberculosis Society has voted that the use of receipts from the sale of Christmas seals may be used by county societies to place Hygeia in the rural schools the county auxiliaries be encouraged to assist in every way in the sale of the Red Cross Christmas Seals.

7. That the incoming president be authorized to appoint a representative to a conference on state and county parks.

8. That we express our thanks and sincere appreciation to the retiring president, Mrs. A. B. McGlothlin, and the retiring officers for their splendid work during the past year.

9. That the State Auxiliary express its deep appreciation to the women of Sedalia for their warm hospitality and gracious entertainment.

MRS. A. W. McALESTER, Kansas City.

MRS. FRANK HINCHEY, St. Louis.

MRS. M. P. RAVENEL, Columbia.

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COMMITTEE } C. B. FRANCISCO, M.D.
 } M. A. BLISS, M.D.

ORIGINAL ARTICLES

PROGRESS OF MEDICINE*

PRESIDENT'S ADDRESS

W. H. BREUER, M.D.

ST. JAMES, MO.

The practice of medicine, and when I say medicine, I mean the practice of the healing art, whether it be by medicine or surgery, dates back to the earliest history of the human race. The earliest records handed down to us in the realm of medicine come from Egypt and were written by Ebers in 1552 B. C. They were very crude but are referred to as very scientific at that time. They were merely a compilation of recipes and directions for the cure of various diseases and the description of a few surgical operations for the relief of surgical conditions as recognized at that time. The next record we find was written during the building of the Pyramids in the valley of the Nile. There we find them recorded by sculpture in a series of operations carved in stone in a tomb in the Necropolis of Memphis, built by King Menes, the founder of the first Egyptian dynasty.

Coming down the cycles of time we find recorded in the Bible many allusions to medicine and the healing art and sanitation as taught by Moses while leading the Children of Israel through the wilderness was as scientific as any work that is recognized at the present day except that it did not cover our modern plan of living and dress; but the underlying principles of sanitation were perfect. The allusions to the healing art in the Bible indicate that most diseases are punishment inflicted by the Divine Power for transgression of the laws of nature and must be removed by certain sacrifices and ceremonies; and yet our ancient brethren were taught that they must do something for themselves to assist the priest in curing their diseases, as illustrated in the command to the leper Namon who was told to go and dip in the river Jordan to cure his leprosy.

At this time medicine was in the hands of the priests. However, we find many eminent scholars who were ably assisting them in their work. Jesus Christ Himself was called the Great Physician because he went about healing the sick by his Divine Power, yet we find Him on many occasions using worldly means to accomplish His purpose, as illustrated by the incident when He spat in the dust and made a paste of clay to cover the blind man's eyes teaching him, as we believe, that humanity should seek from the earth a remedy for their bodily ailments.

While the Hebrews attained the greatest prominence in hygiene among the Orientals, the credit of having excelled all other nations of their time in operative surgery belongs to the Hindus, and the Cingalese records indicate the existence of hospitals in the City of Ceylon as early as 437 B. C.

In the Susruta, a Brahminian publication of the fifth century A. D., we find about 120 different surgical instruments described and many surgical operations are carefully detailed. Limbs were amputated, hemorrhages checked by cauterization, fractures and dislocations treated by special splints made from bamboo all of which were very crude. But it is a remarkable fact that at that early date men were doing skin grafting, plastic surgery and the like; and it is interesting to note that their method of extracting cataract is still in use at the present day.

Again, to these Hindus we must give the credit of being pioneers in the science of experimental medicine, using plants, gourds, cucumbers and dead animals, particularly with the object of improving the rapidity and thoroughness of their technic in the absence of anesthesia.

From the poems of Homer come our first allusions to medicine and surgery in Greece and among the Greeks at the time were many medicine men whose knowledge and skill were esteemed very highly, yet it is to Hippocrates that we are indebted for most of our early knowledge of medicine among the Greeks and to him must go the credit of writing the first real work on medicine and surgery. In fact he

*Delivered at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

is considered the Father of medicine and from his time down to the present day we can trace the steady but slow development of the science of medicine. He studied and taught medicine unselfishly to others, requiring of every man to whom he taught the art to subscribe to an oath pledging himself to transmit to posterity any knowledge that he might gain; to labor honestly and faithfully for his patients and live a just and upright life before God and man, thus establishing the broad principles of medical ethics upon which our noble profession stands today. While it is true that a few medical men today commercialize themselves and become charlatons and quacks, preying like vultures upon the misfortunes and credulity of their fellowman, the great majority of physicians are standing up to the high ideals of their calling, living lives of self sacrifice, unselfishly giving their time and energy to suffering humanity, always battling against disease and striving at all times to make this old world a better place to live in, that those who come after us may find it just a little better for our having been here.

From Hippocrates, who was born 460 B. C., on down through the centuries we find a gradual development of the science. Medical schools were established in all the great universities of learning in the Old World but nothing startling appeared until the sixteenth century when William Harvey discovered the circulation of the blood and Aselli, his co-worker, discovered the lymph vessels and made possible the discovery by Sir John Hunter of the process of inflammation. Hunter's book on inflammation and wounds, written in 1760, is considered authority to this day. In 1800 Sir Humphrey Davy suggested that nitrous oxide gas might probably be used with advantage in surgical operations but not until 1846, when Dr. Henry J. Bigelow, an American physician, read his paper on "Insensibility During Surgical Operations Produced by Inhalation," before the American Academy of Arts and Science, was the first definite account of satisfactory anesthesia made known, and during the following year it was generally used throughout the entire civilized world. Thus was made possible the great field of abdominal and cranial surgery which had hitherto been unknown.

To Pasteur and Koch belong the discovery of bacteria about 1860 and to the genius and patience of Lister we owe the successful application of their knowledge and the development of antiseptics. With the invention of the microscope came a new era in the study of histology, pathology and bacteriology and for thirty years the learned men from every uni-

versity were doing research work in every field, with tremendous success.

Then came in 1896 the X-ray by Roentgen and in 1899 Madame Curie with her radium, all of which has made possible the wonderful advances we have witnessed in the treatment and prevention of disease in the last quarter of a century. And let me say in passing, that medicine has made greater progress and has advanced farther in preventive medicine in the last twenty five years than it did in the hundred years previous.

Now let us consider briefly a few of the outstanding achievements that have been accomplished during the present generation. Smallpox, that dreaded scourge of ancient times, has been rendered harmless by systematic vaccination, proper sanitation and fumigation. It is true that Dr. Jenner discovered that inoculation with cowpox would prevent smallpox in human beings many years ago, yet it remained for the present generation to perfect the vaccine and render harmless this dreaded disease. In 1896 after many years of research and experimental work Dr. Behring gave to the world diphtheria antitoxin which has completely revolutionized the treatment of diphtheria and membranous croup, rendering impotent and practically harmless that dreaded disease. Many of you have a picture in your mind at this moment of the face of a horror stricken mother when her family doctor had told her that her child had diphtheria. In 1896 the percentage of deaths in well developed cases of diphtheria and membranous croup was fifty eight out of every hundred cases, while today it is less than two in one hundred cases when properly treated with antitoxin. Yet our greatest achievement is prevention. Now when a case of diphtheria develops we give all children in the family and those who have been exposed a prophylactic dose of antitoxin and that is the end of the infection.

During the Spanish-American War five times as many soldiers were incapacitated from typhoid fever as were wounded in battle and twice as many deaths occurred from typhoid fever as were killed in battle, while in the late war only twenty years later, we found that by systematic injection of all our soldiers with prophylactic serum for typhoid and paratyphoid these diseases were reduced to the minimum and the whole number of cases being so small in our entire army of nearly five million men that the percentages are not given anywhere in the literature.

Here again we find sanitation is doing a wonderful work. In private practice when no prophylactic serum is given we are able to reduce disease to the minimum by properly watching our food, milk and water supply.

This was very forcibly demonstrated during the past summer right here in our own community when the city of Lebanon developed an epidemic of typhoid. The State Board of Health went to Lebanon, investigated conditions, found the source of infection, eradicated the cause and in a few weeks the disease had disappeared.

Many of you here remember when the mere mention of yellow fever struck terror to our souls and in 1898 when the American Army of Occupation went into Cuba they found a fever infested country, the natives dying by the hundreds from yellow fever; no sanitation, no agricultural development and no educational institutions of any kind. Under the heroic efforts of Surgeon General Gorgas (then Major) and Major General Wood, the Island was cleaned up, sanitation perfected and after much research and experimental work Drs. Reed and Gorgas discovered that yellow fever could only be transmitted from one patient to another by a certain species of mosquito. The rest was easy; the swamps were drained, the breeding places of mosquitoes were destroyed, screens were installed, and today Cuba is one of the most beautiful countries in the world, the people are prosperous and happy and yellow fever has disappeared.

For many years the French government spent many millions in money and thousands of lives trying to build the Panama Canal but finally were compelled to give up the project on account of yellow fever and malaria. Here again the doctor came to our rescue. Having already conquered yellow fever they began in earnest to find the cause for malaria. Strange to say it was demonstrated that another species of mosquito was found to carry the malaria infection into the blood of his victim. Trained experts in sanitation and preventive medicine were sent to the Zone and the greatest engineering feat in all history was quickly carried to a successful termination.

Tuberculosis has been subdued and seventy five per cent. of all cases are now classed as curable. Anthrax bacilli has been isolated and carbuncles are successfully treated. Under proper sanitation and hygienic measures the bubonic plague has been practically stamped out and when the U. S. Public Health report was printed in July, 1926, there was only one place in the world where there was a single case and that was a small town on the coast of China.

A serum has been perfected whereby the paroxysm of whooping cough may be materially shortened and we hope may soon be entirely prevented. We have learned so much about feeding and hygiene for our babies that dysentery and summer complaint no longer

take their toll by the hundreds during the summer months.

After long years of research and experimental work we are able to definitely cure syphilis. Leprosy, that awful disease which is spoken of so much in the Bible, has been conquered and an American army surgeon has definitely demonstrated that certain cases may be cured and others benefited and life prolonged by the proper use of chaulmoogra oil.

Very recently the insulin treatment of diabetes has done much to make our patients comfortable and when the treatment is perfected we believe we will be able to cure them completely.

We have learned much about the care and treatment of scarlet fever and it no longer claims the death toll that formerly was its own.

The National Society for the Prevention of Blindness has done a wonderful work and found that nearly sixty per cent. of all cases of blindness were preventable if properly handled. They also found that forty per cent. of all cases of blindness were due to syphilis and ophthalmia neonatorum both of which were curable diseases and preventable if properly treated. So from now on we expect to begin to reduce the percentage of blindness among our people.

One of our greatest achievements has been the perfection of antitetanus serum by means of which we may not only prevent lockjaw, but well advanced cases can be cured. In all former years tetanus or lockjaw has been one of the dreaded complications of all wounds from artillery but in the late war under systematic use of antitetanic prophylactic serum the percentage of cases were reduced to almost nil.

I could go on almost indefinitely reciting to you the advances we have made in the last thirty years but the above will suffice to show you that medicine is a progressive science and that the profession is striving for the uplift of humanity.

All the problems have not been solved and all diseases have not been conquered; we are just in the morning time of achievements. I believe that a new era in medicine is just dawning. Thousands of earnest, conscientious men are today spending their lives in research and investigation of causes and prevention of disease. Philanthropists are establishing great funds or endowing foundations the income from which is being used to further this cause and with the aid of the microscope, the test tube, X-ray and electricity I firmly believe that the next twenty five years will show greater progress in medicine and surgery than the last twenty five years has done, even though our achievements have been monumental.

In 1900 the average span of human life throughout the civilized world was forty one years; today according to the report of public health authorities it has been raised to fifty two years in the United States and Dominion of Canada.

Organized medicine in Missouri and throughout the United States has endeavored for many years to make conditions better, not for the doctors, not for ourselves, not to gather shekels into our coffers, but for the sole purpose of making this old world better for the people who live in it. It is with that ambition that we have labored earnestly and unselfishly to bring about wholesome laws to protect the public and the health of our communities. Many laws have been passed for the betterment of humanity throughout our state, but I do not believe, while we had several amendments to our Medical Practice Act and to the health laws of this state before the legislature this year, and all of them went over 100 per cent., I do not believe that there is any one bill that stands out in greater relief and means more to the public than the one which established a hospital at Columbia and made an appropriation to start off the work of caring for and treating the crippled children of this state. A commission was appointed through certain machinery that was set in motion by the legislature and a complete survey will be made of every county and city in this state. The commission will go before the legislature two years from now with a program for taking care individually of every crippled child in the state of Missouri in order that they may not only be treated for their disabilities and physical deformities but that they may be educated and taught to earn their own support as well.

WHAT, WHY AND HOW, WE MUST TELL THE WORLD*

C. M. ROSSER, M.D.

DALLAS, TEX.

To be a guest of the Missouri State Medical Association at any time would be a distinguished honor for me, but it is one that I appreciate more deeply now since at this time my long time friend Dr. Jabez Jackson, one of your own products, not only of Missouri but of this good city, is the honored President-Elect of the American Medical Association.

I am also pleased with the behavior of another of your distinguished members. Some years ago national attention was called to the unearthing of iniquity as it was practiced by

pseudomedical colleges, and your splendid President at that time of your examining board, rendered not only state service but national service, not to the medical profession so much as to the people whose welfare the profession serves. I had not met Dr. North, as I had wanted to do, so that I might estimate him. There is always some reason why a man succeeds. First, he must have the inclination, he must have the ability, he must have the industry, and he must have the courage. As I have analyzed him at closer range, I am sure not only from his accomplishments but from the inquiry I am able to make, that he possesses all these things.

I want you in the beginning to know that I have no thoroughly crystallized address to deliver. The formidable subject present must not discourage you—"What, Why and How We Must Tell the World." The length of the subject and the address I deliver will be to some extent in inverse ratio. When I was asked what subject I would prefer I was, as I always am, at a loss. Bill Nye was coming to our town once many years ago, and we telegraphed him to know what his subject would be. He said, "Put down any old thing. It will be the same speech anyway."

I said I would speak on "What, Why and How We Must Tell the World." An idea running through it is that there is something we ought to tell the world, that there is a good reason why we should take the world into our confidence, and that there are methods of approach and communication which might be better than other methods. I shall perhaps abandon any attempt to discuss that subject in any systematic way, and merely talk to you about some matters that are in my mind.

First, let us concede that no one as an individual, that no organization, and that no effort can be hopeful of success without objectives. Let us understand that objectives, to be worthy, must go far beyond the individual program which any person may hope to carry out. Therefore, there must be ideals. If we are to have ideals they ought to be of that type and character which commend themselves to thinking people who have minds and hearts.

The medical profession is an organization but it is composed of men and the ideals of the medical profession will not rise higher than the ideals of the average man who is a member of the medical profession. The ideal should be to respect, to hold in admiration, and to hold in veneration the great men of the past who have contributed to make the profession of today what it is. Common honesty compels men who are in the medical profession now to be grateful for the contributions which those have made who have been pioneers before us. We

*Delivered at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

come into the medical profession at a wonderful time, when it has opportunities which it has not had before, when it has opportunities which it will not perhaps have in the future.

Those of us who entered it about the time of my entrance can remember the new theories which were proposed for our consideration and adoption. I recall that the germ theory was being discussed by scientific men in all parts of the country and a decision had not been reached. I was reading an address which I heard delivered not long ago by Mr. Marcy, of Boston, in which he called attention to the resistance which the profession made to the Lister theory, as it was then known. He recites from his own experience that he went to Europe as a very young man to better equip himself for the duties of his profession. He had not expected to see Mr. Lister, and certainly not to be his disciple. But situations arose which threw him in contact with him and an arrangement was made whereby he might become his pupil. When he returned to Boston, with what was termed his new fangled ideas, he was not permitted to operate in the standard institutions of that great city. The staff of the Massachusetts General and the Boston City hospitals held conference and were polite enough to discuss with him the theories which he had brought back, but he was told that those ideas he had were the vaporings of an unbridled and disordered imagination and they would have none of them. That man is still living. Think what progress has been made from that date, and think how we who entered the profession after that are obliged to the men who not only discovered principles that are eternal and that will never die, but placed them before us for us to utilize in our daily lives and in the performance of our daily duties.

We are under obligation to the men who so well organized the medical profession. Some of you may remember when county societies and state societies were units of their own. The organization of the American Medical Association permitted of a reorganization which was effected in the days of most of us. We remember when our friend McCormack came by and stopped an hour or two, or a day or two, if necessary, to counsel with the local organizations everywhere and to undertake to sell us the idea that we should become one great organization, therefore a unit in the great machine known as the American Medical Association. The inspiration which he carried stimulated enthusiasm, enthusiasm stimulated investigation, investigation rendered service of a higher type, and the great profession today in which we find ourselves is indebted to many men who have gone before.

We offer ourselves to the public as the guardians of public health. If we are to serve in that capacity we must render worthy service. If we do render worthy service then the state must recognize that service in many ways. If we are to be responsible for the work of the medical profession, then we must have some provision by which we may guard its entrance.

There is never going to be a way to standardize intelligence; we can never standardize honesty; we can never standardize faithfulness; those are attributes which will remain individual. There will always be men in all organizations who are not impressed with the ideals of the organization itself and who will not, whether from lack of competency or conscience, render that service which is expected of them and which they should render to measure to the responsibilities which all men have assumed who enter the medical profession. But there are certain safeguards which can be thrown around it, and if the doctors of a state neglect their duty in this connection such duty will remain neglected.

There is but one philosophy that is worthy of consideration in connection with guarding the entrance to the medical profession, and that is this: to fall upon the principle that the practice of medicine is the treatment of disease by any method whatsoever, and that those who treat disease by any method whatsoever are practitioners of medicine, and that it is not a question whether one shall have the opportunity to follow a profession as he cares to; the question is, shall the sick-room be guarded so ignorance cannot enter.

If a man is practicing medicine, whether he be a disciple of the splendid generation ahead of us, whether he be a brother who walks his weary way in following out the duties which lie before him, whether he be conscientious in his effort to know, and skillful in his performance, or whether he be wedded to some fad which eliminates and sets aside the discoveries which science has made at the expenditure of millions of dollars of money and the lives of devoted men, he is practicing medicine. If he offers his services and is successful in securing patronage by any system which he undertakes to follow, he is practicing medicine, and the obligation of the state is to see to it that he is fundamentally prepared so that it can be possible for him to render safe service, whether scientific service or not, and no service is safe that is not scientific.

We have in our state a law which I would commend to you. It has required much effort on the part of many men. You will pardon the personal reference—it is easy to make and difficult to avoid. I think as far back as 1907 the Kansas City Academy of Medicine hon-

ored me by having me as their guest. My subject that night was "Unification." It was a subject proposed by the committee that invited me. I discussed that night some of the principles which underlie the law which I will now describe to you. An effort was being made then to have the legislature see its wisdom and its workability.

The year following the legislature adopted that law. It was not as complete in its provisions as it ought to be and on a number of occasions we have gone before the legislature in an effort to have amendments which would make it a better law. But the principles which were taken care of in that law at the time have not been added to nor taken from. The amendments have sought to provide better means of enforcement. In this we had difficulty. There were a great many offenders against the law who were not abiding by it and who did not intend to cease offending, and so long as the penalties could be met by small payments a man could go to his office the next day and by the little advertisement he had, recoup his finances. We have now an amendment which is proving satisfactory. One board for all is the ideal and if you have missed it, go back where you lost the road. Multiple boards mean multiple standards, and multiple standards mean no standard at all, or next to that certainly the lowest standard.

The board which offers the easiest facilities for passing is the popular one, and until we find in our thinking that human life has separate values for separate and individual people, we shall believe that the sick and suffering in any city, town, hamlet or home are just as much entitled to the care of the state, the protection of the state and the benefits of a law which seeks to give this protection and this benefit, as those in any other home any other where.

What are the qualities which a man must have if he is going to be safe? Leave off the word "scientific" if you want to. The man who is going to treat the sick must know something of the machinery that he is undertaking to repair, he must know anatomy, and he must know human anatomy, not regular medical anatomy, not homeopathic anatomy, not osteopathic anatomy, not chiropractic anatomy, not Christian Science anatomy, not any sort of anatomy necessarily except human anatomy. He must know the human frame at rest. If he does not know the human frame at rest how shall he judge it in disease? He must not only know anatomy but he must know the rules upon which it operates the human body, he must know physiology, and he must know human physiology and not any particular brand of physiology. If he doesn't know anatomy and physiology, how shall he comprehend pa-

thology and how shall he interpret the changes which are made, because pathology is merely physiology gone wrong. If he doesn't know anatomy, physiology and pathology, how is he going to determine what the trouble is and begin to think about what he should do? A man must know these things. After this, bacteriology, chemistry, physical diagnosis, hygiene, principles and practice of surgery, obstetrics, and he should know something of medical jurisprudence. Those are the subjects upon which our law in Texas inquires of every man who has before him the opportunity of having the certificate of the state through the fact that he is competent to treat sick people in that state.

We ask him nothing at all about what to do for the sick. These subjects which I have enumerated are based upon fixed facts. What to do for the sick man is a matter of opinion and opinions cannot be standardized. So the best precaution we can offer is that the applicant who comes before that board shall present a diploma from a reputable college of medicine, and the word "reputable" is defined to mean so many years, so much preparation, academic preparation, so many years of careful study under promising surroundings. Any man who comes before the board must present such evidence, and from that evidence the board can judge that he has at least had an opportunity to learn some proper treatment for the sick. If a man has not had such opportunity he is not permitted to answer like a parrot.

Our difficulties in Texas in securing a proper amendment grew out of the fact that many legislators were influenced by political environment. In 1923 we had a meeting in our state, and in my city in fact, in which we considered what means we would employ to impress the legislature with the fact that it might do its duty without too much distress, and on that night I recited what may interest you, and I drew from it a lesson.

I reminded that committee and that gathering composed of something like 150 men interested in this subject, of an experience I saw in Baltimore during the 1912 national convention. It happened that I had the friendship, confidence and tolerance of the late William J. Bryan. I preceded him to the city of Baltimore by two days. I was there when he arrived, and I saw the mob spirit manifested when all the available space near the depot was filled with a curious crowd, and for blocks around the hotel where he was going to stop it was necessary to control the traffic to make a line so that he might enter the hotel without too much physical exertion. The next day, on going to the Coliseum, we passed down

an elevator which carried freight, ordinarily, in order to avoid the crowd so that he might be physically able to make an address before the convention. He was defeated for temporary chairman. We went out the same exit we came in and walked three blocks looking for a taxi, and not a man spoke to him. I said, "My God! the inconstancy of collective affection!" We got back to the hotel, the halls were deserted that had been crowded before; a few of the faithful were about, and the ubiquitous reporter was there to ask if he was going to make any other move. He knew human nature. On the inside of the room he laughed like a boy and said, "They have done all to me now they can afford to do. Wait until they hear from the folks at home. I am going to have a couple of hours' sleep and a bath." He asked those of us who were about him to circulate around the hotels and see what the fellows were talking about and come back. When the two hours' sleep and the bath were over, he was stuffing all the pockets of his Palm Beach suit with telegrams that were coming in, telegrams of hope and courage, but it was not the telegrams *he* received, it was the thousands of telegrams from the folks at home repudiating the work that day when they had killed the father in his own house. Then he stepped back to the stage within a few hours and the scene was different; he commanded it. He did what he wanted to do, whether it was right or not. The folks at home did the job.

Take a lesson from that. I said, "Gentlemen, I am tired of going to the legislature and walking up to a representative or senator and having him say, 'You are Dr. Rosser, of Dallas, I believe. You are down here to talk to us about the Medical Practice Act. I am pretty busy, doctor. If you stay over tomorrow until ten o'clock—no, I'll be busy then; if you stay until five, I'll probably have a few minutes for you.'"

I did get tired of that, and I said, "I will do that no more. I am going to the folks at home." I educated that legislature in the language which they know, and I approached them in that language. With the help of some patriotic and active men, we made a campaign of the state.

Regarding the statements which refer to me, I can only tell the story as it happened. I traveled by automobile, speaking from four to six times a week, without going home, and covered that state as closely as any man ever did who was a candidate for governor or senator. I went to the legislature, and when I stepped into the door I had notes from six of them waiting for me; I did not have to wait to have them recognize me. Men came to me

and said, "Doctor, I want to talk to you about your bill. I am for it. I want to know why I am for it." Another would say, "What I want to do is make a speech on it. I wish you would give me all the literature you can." They heard from the folks at home. There is an appeal to the people. It is a moral issue and the people will not fail when they understand.

Shall you give to the sick in one part of the state or in one part of the city or in one home in the city a character of service which cannot be had by the others, even though it be misinformation that is preventing them from getting it? We must tell the world, we must secure the help of the state in its splendid judicial and police power, we must protect the homes of the people from ignorance and avarice, because when combined they are the greatest menaces of which we know.

Shall we permit uneducated people to have the authority in the state to put up a sign that they are following the business of treating the sick when no effort has been made which is competent to determine whether they are? It is bad enough for an outlaw, but it is worse for the state to become an accomplice.

There should be no board which in the name of the state of Missouri will certify that a man is any kind of a doctor until that man has demonstrated that he is reasonably safe, and he cannot be reasonably safe without some standard proposal which he has adopted. It does not matter whether that standard is due to the desire which men have for a near cut to an avocation or whether it be due to lack of intelligence, the state's business is to see to it that every sign on a doctor's office is a safe guide to the service of the doctor, and a state should make those signs safe or take them down.

I had not intended to make this sort of address. I had a beautiful, flowery one that I was going to turn loose here, one with which I am thoroughly familiar. I envy you your chance to go over the work that we have gone over, not because I am vindictive in my temperament but because the opportunity for such a campaign as I have told you about has a wonderful outlook for selling the medical profession to the public, not that the individual members need anything to be said to help them in their business but because as the medical profession is better appreciated its opportunities of service are enlarged.

I would not if I could put every quack in my state out the same day by high pressure methods. They would be back the next morning in some other guise. But if the intelligence and good conscience of the citizenship of the state can create an atmosphere in which

calamitous error cannot grow, then that is the work of a lifetime and that is what a campaign to correct your situation will guarantee.

The state should be just as competent to care for the sick as for the well. What interest shall the medical profession take in this? It takes no interest for its own good, but it takes an interest for the good of the public. If the man who knows doesn't tell you, how are you going to learn?

If there is a swollen stream out here and the bridge is out and only one man knows it that man must devote himself to turning people back. The medical profession is standing beside the road that leads to the swollen stream and the bridge is out. It must warn, it must plead, if necessary. It must have the help of the state and it must give to the state its help in seeing to it that the state does its duty.

I have talked as long as I should. I shall be glad to take up in any way in which such discussion is wanted, the situation in this state. I want to see throughout the Union a recognition of the responsibility of the state reflected in the laws of the state and I have no higher aspiration which a man might have than that he might contribute to such a situation.

If I were to consult my own private interests, I would not care to continue, even in my own state, the work of the crusader. I know the fate of the reformer and I know that loss of time and energy is expensive, but I further know that no man should come to life's close and feel that he has duties unperformed.

Just one moment about a method. There was a time when information went from the schools by the children to the homes, and from the pulpits on Sunday, and the people learned what other men were doing and thinking in that way. We then traveled by the ox cart. All that is ancient history, and now information is almost instantaneous everywhere. The medical profession must revise its attitude toward mediums of exchange of information.

We insist in our state that there shall remain proper regard for a profession which will prevent self-exploitation of any individual member of the profession. Advertisements, if you want to call them such, of the purposes and the accomplishments of the profession itself, the newspaper read at the morning breakfast tables throughout the country, the radio, all should lend themselves to our purposes just as they do to others.

It has been difficult for the medical profession to take that idea, because there was a difference between publishers and the profession. Publishers thought that because physicians did not buy space for advertisements and yet were willing to have complimentary things said about them, it was the

price that prevented what they termed legitimate endeavors to be known. But what had the physician to advertise? A gentleman could permit in an advertisement which he sponsored just his name, the profession he followed, where he could be found, when and how. Anything beyond that would not be becoming to a gentleman and therefore the interpretation of our Principles of Ethics would permit nothing further. But when this subject is presented to publishers, as some of us have had the opportunity to present it, it is very pleasing indeed to see how sane those publishers are and how willing they are to become a part of the great program of educating the public for the public's good.

Medical Arts Building.

TYPES OF NEPHRITIS

RALPH A. KINSELLA, M.D.

ST. LOUIS

Classification of common nephritic types is useful to the practitioner in the matter of prognosis especially. The number of atypical cases is still so great that any tabulation must be elastic and it is often better to refer simply to acute or chronic nephritis rather than further qualify the type. The symptoms of nephritis are not definite and the urinary findings are not always specific. Thus it happens that a person with dropsy is frequently told by his doctor that there is "kidney trouble," because edema has been popularly associated with nephritis or because an associated albuminuria is of itself often thought to indicate damage to the kidney. It might be timely, therefore, to discuss briefly these two important signs.

Most cases of edema are due to circulatory weakness. Indeed, in cases where nephritis is known to exist, the widespread edema that may exist cannot always be said to be due to renal rather than a cardiac weakness, since cardiac dilatation is so common in renal failure. This is because the disease of the kidney seldom exists by itself; it is produced by an agency which at the same time produces damage to the circulatory apparatus. Circulatory edema is influenced by gravity. It is relieved by rest. Therefore the appearance of edema in the nondependent parts suggests an origin which is independent of the circulation. Swelling of the face, even in the morning, is accordingly a type of edema which at once suggests a renal insufficiency, while the swelling which begins in the feet points

to circulatory insufficiency. Anasarca can therefore be much more extensive when due to renal than when due to cardiac failure.

During passive congestion with edema there is albuminuria and frequently a considerable number of casts. At autopsy such cases may display kidneys that are normal under both macroscopic and microscopic inspection. Obviously, therefore, albumin and casts do not indicate that the edema is of renal origin. In such cases the level of blood nonprotein nitrogen is not elevated. This last named fact constitutes important differentiating information. If the edema has existed for several months, we have observed that the blood nonprotein nitrogen is increased in amount and the renal tubular epithelium showed atrophy and desquamation. These facts are very important from the standpoint of therapeutics since it is obviously futile to administer diuretics for the purpose of relieving edema which is based on a weakness of the circulation. Edema which defies gravity, and urinary abnormalities which are accompanied by increase in the nonprotein nitrogen of the blood are the features which characterize renal insufficiency. Other symptoms, such as weakness, anemia, pallor, headache, nausea, may be added but are inconstant and are present in so many other clinical states that they cannot be tabulated as symptoms and signs peculiar to nephritis.

As stated before, the kidney is seldom diseased by itself. Much more often it is simply participating in a disturbance in which all the organs are to some extent involved. On account of their importance as excreting filters, they display their disability with prompt symptoms of sickness. Accordingly the first point of separation of renal disease seems to be on the basis of the disease being either local to the kidney itself or participating in diffuse disturbance.

When we consider the renal glomerular apparatus we can picture disturbances of filtration which are due to changes in the blood flow, in the blood itself, or in the containing vessels. Each set of changes can lead to deranged renal function which is transitory or permanent. More permanent derangement will naturally follow structural damages to the blood vessels, while the transitory deficiencies will be more likely to occur when temporary circulatory weakness is the cause. When qualitative changes in the blood itself, such as the appearance of poisonous substances, are the

cause of the renal disease, it is easy to apprehend that the resulting damage may be temporary or prolonged, limited or extensive and located in the tubular or glomerular sections. If these damages are permanent in the kidneys and less so in other portions of the body, a purely local condition may be produced.

The urinary changes in passive congestion have been referred to, and the importance of examining the nonprotein nitrogen of the blood has been emphasized. When the renal disability grows out of an arterial disease the effect upon the urine is slow to appear and usually slow to develop. The excretion of solids is gradually restricted so that specific gravity fails to fluctuate under the variations of fluid intake, with that elasticity which young healthy kidneys display. This condition may exist with or without hypertension and its exacerbations will depend on the character of the arterial disease and number and kind of intercurrent illnesses. Changes in the blood, such as the appearance of poisons, of infectious material or other reactive substances, will produce effects either on the tubular structure or on the capsules about the glomeruli which give the name of "tubular" or "glomerular" to the nephritis. The changes produced in the urine are such as can be used to define the stage of the disease. This point has been well illustrated by Addis. Thus the appearance of red and white cells speak for acuteness while their gradual disappearance attends the chronic stages. He has also emphasized the importance of large coarse casts as indicating the acuteness of the disease and has referred to these as "renal failure" casts.

Purely degenerative lesions of the tubular structures are called nephrosis, and acute and chronic nephroses are spoken of instead of acute and chronic parenchymatous nephritis. Of course no change can become chronic and be limited to the structure in which it originated, so that chronic interstitial changes may follow acute glomerular, acute tubular or the so called vascular nephritis.

In St. Mary's Hospital during 1926 there were ninety three cases filed as acute or chronic nephritis. These are the general headings under which we file all cases. It remains for the clinical characteristics of each case to further qualify the type of kidney disease. A study of these characteristics is made while the patient is in the hospital, for the purpose of enlightening the

treatment, or after discharge for educational purposes.

From what has been said it is possible to arrange a table of classification as follows:

nephroses. The etiology in this case was not clear.

The next most important group was one of ten cases of pyelonephrosis. Three of

Table I. Renal Diseases

PARTICIPATING	Blood flow	Chronic passive congestion			Tubular	
	Blood vessels	Sclerosis	With hypertension	{ Benign Malignant Calcifying arteriosclerosis	Arteries	
			Without hypertension		Glomeruli	
	Qualitative changes in blood	Poisons			Interstitial.	
		Toxemia pregnancy			Pathology?	
					Mixed glomerular and tubular	
		Anaphlyxis			Tubular	
		Toxemia of acute infections			Tubular or glomerular	
	LOCAL	Streptococcus toxin	Scarlet fever			Glomerular
		Mercury and other poisons	Tubular nephritis			Tubular
Bacteria		Bacteriemia	{ Streptococcus viridans Staphylococcus Other bacteria		Focal	
			Pylonephrosis		Focal	
			Tuberculosis			

If we apply the foregoing table to a list of cases such as these ninety three, it becomes suprisingly easy to identify the character of each case. It becomes apparent that diseases of the blood vessels with hypertension furnish the greatest number of cases—39 per cent. of the present series; and arterial disease without hypertension led to Kidney insufficiency in 8 per cent. of the cases. Ten of the thirty five cases of arterial disease with hypertension died. Of these deaths, four were attended by uremia, five by apoplexy, and one by cardiac failure with edema. Two of the thirty five cases had syphilis and five had diabetes.

There were ten cases of acute nephritis due to various poisons; alcohol, three; turpentine, one; mercury, one; lysol, one; burns of the surface of the body, two; starvation, one; food, one. Many of these were no doubt acute degenerative lesions affecting chiefly the tubular tissue and may have recovered completely. They might in some cases be called cases of acute nephrosis.

There were twenty two cases of acute nephritis. These cases were associated for the most part with acute infections. Ten were associated with acute infections in the respiratory tract; two with acute enteritis; three with acute cholecystitis; three with osteomyelitis. Most of these which could be distinguished at all by the clinical signs, could be classified as acute glomerular nephritis, while only one could be called an acute

these were tabetic and a relaxed bladder had evidently been the origin of a stagnation and retrograde infection of urine. A clinical characteristic of this group is the amazingly high nonprotein nitrogen which such a patient may entertain without displaying those symptoms which a patient with vascular disease would show who had a similar retention. Such patients rarely die in uremic convulsions.

In examining the clinical characteristics of a series of cases of renal insufficiency who came to autopsy in the St. Louis University Hospital during the past three years and correlating such characteristics with the pathological changes involved, a fairly accurate description can be given of the clinical signs in the various types. This description can be given best in the following table:

St. Mary's Hospital.

Table 2. Functional Characteristics of Renal Diseases

NEPHROSIS	{	Low blood pressure.
		Edema—obstinate.
		Disturbance chiefly in salt and water.
		Fairly good P.S.P. Albuminuria prominent.
NEPHRITIS	{	Normal or moderately increased N.P.N.
		Increased blood pressure.
		Edema at onset and during exacerbations.
		Disturbance in phosphates and sulphates.
		Reduced P.S.P. Red and white cells. Little albumin.
SCLEROSIS with hypertension	{	Increased N.P.N.
		At first no functional change; so called "Essential Hypertension."
		Later the changes following those in nephritis but edema is almost always due to circulatory weakness.

BLOOD TRANSFUSION*

GEORGE IVES, M.D.

ST. LOUIS

The history of blood transfusion extends over several centuries. According to Feinblatt¹ the first transfusion with the human subject was in 1667. It has been a common procedure for only the past decade. Previous to certain modern discoveries blood transfusion was an extremely hazardous procedure which could be justified, if at all, in a very limited field. The French law which prohibited the practice of transfusion was probably entirely justified.

The discovery of blood relationships or blood groups on the basis of iso-agglutinins and iso-hemolysins, and the application of this knowledge, have lessened or nearly removed the hazard of the procedure. Other modern discoveries, such as the discovery of the principles of asepsis, of the nature of such infectious diseases as syphilis and malaria, have contributed much in placing transfusion in its present respectable position. But our knowledge of blood groups and of the application of bacteriology would have been of limited practical usefulness without the introduction of simple methods, which have limited the hazards of transfusion and at the same time placed the procedure in the hands of numerous successful operators. Hence today transfusion may be performed with its dangers greatly minimized because of (1) the discovery of blood groups, (2) the application of discoveries in bacteriology, (3) the introduction of suitable methods of transfusion.

It is not my purpose to discuss the fundamental and generally accepted principles involved under these three heads. It may however be profitable to indicate the hazards of modern transfusion, to discuss certain controversial points, and in addition to discuss the principles which underlie the subject of the indications for transfusion. I wish to indicate the dangers of transfusion which still exist after applying, to the extent that it is possible or practicable, the principles to which I have alluded.

The experience of a single operator is likely to be misleading in that it may either magnify the hazards or minimize them to a degree which is not justified. For instance, in my own experience of over 1000 transfusions I have no evidence that any donor or any recipient has been permanently injured, and there has been no mortality as a result of transfusion in my series. I believe that this ex-

perience may be misleading in that it does not indicate in a true manner the dangers. My favorable experiences have in part been due to good fortune and, although it is to be hoped that this experience may be extended indefinitely, the inherent hazards of the procedure teach that sooner or later I shall experience a catastrophe. I mention this experience not to prove that the procedure under favorable conditions is without risk, but more to indicate that it is possible to practice transfusion with a high degree of safety.

I shall consider the prevalent conception that preliminary tests, as grouping and matching, eliminate the possibility of administering incompatible blood. The conception cannot be true because different workers at times report different results in grouping and matching. Certainly errors and incompetency exist in this field as in any other. But I can go further and state that blood which appears to be compatible by proper tests may prove to be incompatible when administered. Upon three occasions I was administering blood acceptable by tests when early violent reactions indicated incompatibility. On three other occasions there was no indication of incompatibility at the time of the transfusion but hemoglobinuria indicated incompatibility.

Our tests for incompatibility apply only to the red cells, and as applied to them they are not absolutely dependable. There may or may not be incompatibility of serum and of white cells. However, such incompatibilities that cannot be determined by preliminary tests are rare. Some of these incompatibilities may be discovered by symptoms at the beginning of the transfusion and others may not be evident until after the completion of the operation.

When we classify blood by one of the common methods according to the distribution of iso-agglutinins, we recognize four groups. We know, however, from the observations of Guthrie and others, that there are other less common groups. According to our method we wrongly and unknowingly place these rare individuals in the four groups. If, for instance, we should classify both donor and recipient in Group Two, there is still the possibility of incompatibility which may be recognized by matching.

It is claimed that by preliminary matching we can materially reduce the number of incompatibility reactions. This claim as it concerns the word "materially" I deny, and at the same time I admit the danger of administering unmatched blood.

We wish to know the extent of the increased hazard of grouped blood over grouped and matched blood. I have given many transfusions without an accident when the preliminary

*Read before the St. Louis Medical Society, April 26, 1927.

1. Feinblatt, H. M.: *Transfusion of Blood*, New York. The Macmillan Company. 1926.

test consisted of grouping only. Since the discovery of Guthrie it has been my usual practice to select a donor belonging to the same group as the patient's group, and then before the final acceptance of the donor to carry out matching. In only two instances, both of patients who had received previous transfusions, have donors suitable by grouping been rejected by matching. Hence, it is my belief that preliminary matching is always desirable but this procedure will have no very large influence upon the statistics of transfusion reactions.

Is an individual's blood group subject to change? This subject has some bearing on the hazards of transfusion. If we should accept the opinions of some we would believe that our classifications are very unstable. Others believe that blood groups are more stable, and that the changes usually observed are not changes in group but changes in titer. Although I have grouped many individuals more than once, I have observed only two instances of change and those changes occurred after transfusions. It seems very probable that blood groups only in rare instances are subject to change.

There is often the necessity of haste in the performance of transfusion. The principles which govern the selection of donors are an important consideration when haste is most essential. When there is no particular haste, as I have stated, I determine the patient's group and select a donor belonging to the same group. As an additional precaution to insure compatibility I perform matching. But these procedures cause the loss of more or less time especially if proper assistants or proper facilities are not quickly available, or if the patient is in a home or at a great distance. Under emergency conditions we are permitted, I believe, to take the chance of administering incompatible blood if the risk is not too great. It is my procedure in emergencies, when valuable time would be lost by grouping and matching, to select a Group Four donor (Moss classification) and to administer the blood without any preliminary tests. Up to the present time I have observed no incompatibility reactions after following this practice many times. Hence the danger of the practice, which I would not unduly minimize, is not great.

The doctrine of a universal donor has been disproved, for in rare instances transfused Group Four blood may agglutinate or hemolyze the corpuscles of recipients belonging to other groups, and in other rare instances Group Four corpuscles are incompatible.

We now come to the question of the choice of method in transfusion. This is a major question which involves several aspects of transfusion including the matter of hazards.

Not very long ago I had in mind the purchase of an attractive syringe apparatus for the transfusion of blood. My plan was to use this apparatus in suitable cases in hospitals and to continue with the citrate method when I was called to perform a transfusion in a home. However, after weighing the various aspects of the question, and not without a consideration of contrary views, I came to the conclusion that the citrate method is the best method for all patients and that other methods should be discontinued.

I do not approve of any citrate method. In two ways, each of which may be of considerable importance, I have modified the original method of Lewisohn. (1) Lewisohn collects the blood from the donor in a wide mouthed vessel, such as a beaker, and mixes it with citrate solution with a stirring rod. I use an Erlenmeyer flask and claim that with a proper motion of the flask citration is more quickly accomplished than with a stirring rod. (2) I specify the use of sodium citrate U. S. P. VIII instead of that of the present U. S. P. IX. By accident I changed from the use of the latter to the use of the former and found that the number of posttransfusion reactions was greatly reduced in number, and that those which do occur with the use of eighth pharmacopeia citrate are usually less severe than those observed when citrate of the ninth pharmacopeia was used. Contrary to the opinions of numerous writers on transfusion who believe that citrate reactions are hazardous, I treat the matter as of minor importance.

The chief points upon which I defend the citrate method are as follows: (1) In my series of over 1000 transfusions there has been no mortality attributable to the procedure; (2) the citrate method is usually more easily and more quickly carried out than other methods; (3) the citrate method is as easily applied in a home as in a hospital; (4) with the citrate method a trained assistant is desirable but not absolutely essential; (5) with the citrate method adults, infants and children may usually be successfully transfused by the simple method of vein puncture; (6) the results obtained in my series are as favorable as those obtained by other methods; (7) the reactions following or occurring during citrate transfusions are less to be feared than those associated with other methods.

To my statement that reactions occurring during or after citrate transfusions are less to be feared than reactions associated with other methods many will take exception.

Citrated blood may be kept in a flask for hours or for a day and remain suitable for transfusion, but uncitrated blood must be quickly transferred from donor to recipient.

How quickly the transfer *must* be made we do not know. Herein lies the potent danger of blood coagulation or of precoagulation changes. With the Kimpton-Brown tube, for instance, delays in injecting the blood are inevitable. The danger increases with the length of time the transfer is delayed. The same danger is present, probably in different degrees, in every method for the transfusion of uncitrated blood. Skill on the part of the operator minimizes this danger, but there will be delays from various causes.

I may call attention to another danger of uncitrated blood. The fact that rapidity is essential to the proper transfer of uncitrated blood will at times, I believe, lead to the administration of a fatal dose before incompatibility is recognizable by symptoms. With citrated blood this danger is less because there is not the same necessity for the rapid introduction of the blood.

Transfused blood according to some writers is classified into two kinds, viz., citrated blood and whole blood. The inference seems to be that citrated blood is something less than whole blood. In reality citrated blood is whole blood plus sodium citrate. Others speak of modified blood and unmodified blood. Citrated blood is modified in that sod. citrate, a harmless drug in the quantities used, enters into combination with the calcium of the blood and thereby prevents coagulation. In the body of the recipient this combination is broken and the citrate is rapidly eliminated. With the syringe methods, which are the chief competitors of the citrate method, there is no such thing as the transfusion of unmodified blood. As soon as blood leaves the body precoagulation changes, which increase the toxicity of the blood, set in. The modification of the blood is in proportion to the time it is out of the body, and there are other factors which influence the extent of the modification. Hence, let us not speak of citrated and whole blood, or of modified and unmodified blood, but rather speak of citrated and uncitrated blood, both of which are modified and essentially whole.

It has been claimed that citrated blood is modified in ways other than the modification which I have mentioned. The claim is that in citration platelets are destroyed, that the fragility of the red cells is increased, that complement is diminished, etc. All these contentions have been disproved by competent authority. Further, clinical experience is sufficient to demonstrate that the therapeutic value of citrated blood is in no quality inferior to uncitrated blood.

The unkindest remark which has been directed against the users of the citrate method

has been the statement that the citrate method is permissible in the hands of the unskilled when an operator skilled in another method is not available. I may state that the other methods frequently make such a demand upon skill that the requirement cannot be satisfied. Citrated blood is usually more easily administered than uncitrated blood, but at times the administration of citrated blood requires all available skill. There is often ample opportunity for the display of skill with the citrate method. No one has sufficient skill and sufficient facilities to apply any of the other methods promptly to all patients who are in need of prompt transfusion. The citrate method by its availability at all times and in all places, and by its applicability to any patient—adult, child or infant—deserves the eminent position of first place among the methods of transfusion.

We are told that there are types of patients whose lives would be endangered by a citrate transfusion. Feinblatt states: "It is important to recognize the type of patient whom it is dangerous to transfuse by this method," and he says these types as recognized by Bernheim are as follows:

1. Patients who have been so completely exsanguinated as to be in such extreme shock that the additional hazard of a citrate transfusion must be avoided.

2. Patients in such profound states of anemia as to be almost dead."

This doctrine teaches that aid by transfusion cannot be given to those patients most in need of aid, and it further teaches that we are called upon to know when the patient is just strong enough for a transfusion and when the patient is just weak enough as to be unable to withstand the procedure. Who can make the distinction? No evidence has come to my attention which supports this limitation upon the usefulness of transfusion. My own experience includes numerous transfusions to patients most extremely ill from acute hemorrhage, chronic anemia, shock, infection, etc. I have administered blood to patients whose hearts were in the condition of decomposition. None of these patients has been injured by transfusion. It has been the rule that the immediate effects of transfusion have been beneficial.

The indications for transfusion should be a subject of general interest because of the possible usefulness of the procedure in every field of medical practice. The present tendency among conservative physicians is to extend the indications. My own attitude in the matter is that transfusion in the future will become more common than at present. I believe we now know enough about transfusion, and of

its merits compared with other procedures, to recommend its application more frequently.

However, I may mention tendencies and practices which operate to discredit transfusion and to limit the extension of its usefulness. The common custom of placing the serological work of transfusion in the hands of partially trained technicians and physicians has been proven to be dangerous in practice. This work is not entirely of a simple nature and no one becomes expert in it by a few demonstrations.

The tendency to consider transfusion a minor procedure will have an influence to discredit it. That such a tendency is operating is illustrated by the fact that recent graduates are often encouraged or required to give transfusions. My objection in this instance is not to the properly trained and properly approved physician, but I voice a warning against a lack of standards of merit in this field.

In considering the advisability of any transfusion we should weigh the hazards against the benefits which may be expected. Because of the ever present hazards, which will vary greatly under different circumstances, transfusion should always be considered a most serious matter, and it should not be carried out for trivial complaints and minor ailments, nor when an operator familiar with the procedure is not available.

There are certain chief heads under which we may conveniently discuss the indications for transfusion, viz., hemorrhage, shock, anemias and infections. Certain miscellaneous conditions for which transfusion has been recommended I shall omit from this limited discussion.

Hemorrhage. In examining a patient who has recently experienced a severe hemorrhage we may observe rapid heart rate, a weak pulse or absence of pulse at the wrist, low blood pressure, sweating, coma and finally possibly death. The latter event may occur promptly before any remedy may be applied or recovery may take place spontaneously even after alarming symptoms. If there is any drug upon which we should pin our faith to relieve symptoms of hemorrhage, I confess my ignorance of it. Hemorrhage is commonly treated by the administration of fluids, as water, salt solution and glucose solution. This procedure has merit but it is the over estimation of its merit which frequently counterbalances the good which it accomplishes. Faith in this measure like the frequent unwarranted faith in heart stimulants leads to fatal delays in the application of the most efficient remedy for the effects of acute hemorrhage, blood transfusion. Blood transfusion is often efficient in checking hemorrhage. It shortens convales-

cence. This fact is a sufficient indication for some transfusions.

Shock. Shock and hemorrhage may be considered similar or essentially the same physiologically. The treatment of the two conditions is essentially the same. As a remedy in the treatment of shock blood transfusion has no competitor. I believe from my observations that the dangers of shock and hemorrhage, and the relative merits of different agents in treatment are often not properly appreciated, and hence that lives as a consequence are unnecessarily lost.

Anemias. In the treatment of anemias there is more opportunity and a greater necessity for the exercise of medical knowledge and individualization than in any other field in which transfusion is useful. To be able to properly advise for or against transfusion we should know more than the degree of anemia; we should know the diagnosis, prognosis and the effects which may reasonably be expected from transfusion under the circumstances.

When we give transfusions in conditions of anemia associated with carcinomatosis, advanced nephritis, leukemias, meningitis, subacute bacterial endocarditis, and in other conditions equally grave, we know that strikingly beneficial results will rarely be observed.

There is some justification, at least at times, to disregard the gloomy verdicts of diagnosticians and prognosticators, and to give a transfusion when hope of benefit may appear to be vain. I have a few patients who are living illustrations that this attitude is not always without merit.

Before the institution of the liver diet transfusion was a common procedure in pernicious anemia. The results were unsatisfactory but not without definite benefits. At present transfusion has in large part been displaced by a greatly superior remedy. There is still a place for transfusion in pernicious anemia. When patients are extremely ill when they first come under observation transfusion will often be indicated as the first step in the treatment.

A large field for transfusion is in the preparation of patients for operation. Patients with a low hemoglobin percentage may properly be prepared by several transfusions. When there is the necessity of immediate operation on a patient with a marked degree of anemia most pleasing results may be obtained by two transfusions, one before and the other immediately after the operation. I have observed patients treated in this manner who have suffered no post-operative shock and as regards the heart and circulation were in a better condition after the operation than before it. There are instances of patients who could

properly be prepared for operation only by transfusion.

There are patients who are deficient in recuperative powers. After hemorrhage, after operations, in the convalescence of infectious diseases and in the puerperium, we observe instances of slow progress or no progress toward recovery over a considerable time. Strikingly beneficial results have been obtained in this class.

Infections. In the field of infections the efficiency of transfusion has been clearly demonstrated. There is considerable accumulated experience but this has been insufficient clearly to define the indications for transfusion or to give a satisfactory conception of the degree of efficiency. Possibly some ray of light may be shed upon this subject.

It is apparent that there are many deaths from conditions commonly called septic. The mortality is high among those who receive transfusions. It seems to be true that transfusion has had no very large influence upon the mortality rate in the field of infections. That it has had some influence I am convinced for I have seen a few patients in a moribund condition from septic infections who have recovered after transfusions. In part our unfavorable results are due to the usual practice of applying transfusion as a last heroic effort to save the life of a moribund patient. Let us recognize that transfusion will usually accomplish nothing under such circumstances, and that to secure the maximum benefits of which it is capable, transfusion must be applied early and more often repeated. It is easy to appreciate the necessity of early and proper treatment in cancer. Early transfusion in septic conditions is often of equal importance.

There are certain conditions which call for immediate transfusion even when the condition of the circulation may be considered to be satisfactory. Among these conditions I may mention acute peritonitis, septic conditions continuing after some operations, staphylococcus and streptococcus hemolyticus bacteriæmias. The usual indications, however, are to be found in the condition of anemia and in the state of the circulation. The condition of anemia and especially of increasing anemia furnishes an indication. Of greater importance are the indications obtained from the condition of the circulation. An increasing pulse rate and a falling blood pressure should often be considered an indication for transfusion.

When we encounter these indications and administer blood the usual effect is a rise in blood pressure, a slowing of the pulse rate and improvement in the general condition of the patient. When we observe such effects I do not believe we can deny that life is prolonged

and some patients cured who without transfusion would be lost; for it appears that any measure which will prolong life in infections must of necessity allow time for the antibacterial forces of the body to overcome some infections which would otherwise result fatally.

I believe it may be stated that in addition transfusion mobilizes the antibacterial forces in some cases, for I have observed infections promptly cured or promptly subside after transfusion.

I have given a short sketch of the subject of transfusion and I have been compelled to omit entirely some relatively unimportant aspects of the subject. The opinions I have expressed are the result of moderate study and meditation, and of an experience, the extent of which I have mentioned, extending over ten years. These are some of the opinions which I now hold. What my opinions may be tomorrow I do not know. I shall support my present position until new or more light is thrown upon the subject. Possibly this paper will provoke a discussion which will cause me to reject opinions which I now hold.

Beaumont Medical Bldg.

INSANITY AND MENTAL DISEASES IN MISSOURI*

E. D. HATCHER, M.D.

CARTHAGE, MO.

I wish to call your attention tonight to a large number of our most unfortunate and vitally afflicted, the least understood and most dependent of all human sufferers, namely, our insane and mentally afflicted.

Just seventy-six years ago our first lunatic asylum was opened (1851) at Fulton, Missouri, with a capacity for two hundred patients. It was estimated at that time that there were in our state, two hundred and ten people who were so deranged in mind by reason of disease that they needed a special hospital in which they might be confined and their most obvious needs supplied.

I used the word "unfortunate." Yes, unfortunate because of the widespread pessimism about the prognosis and the treatment of mental sickness, a pessimism not shared by those who are most familiar with the subject. This led the people in general, including the doctors, to think that a roof, a bed and three meals a day were the only essentials for their proper treatment.

In 1872 the second institution for the insane was erected at St. Joseph, with a capacity for two hundred and sixteen patients. A little

*Read before the Jasper County Medical Society.

later, in 1887, the third institution was erected at Nevada with a capacity for two hundred; and in 1903 No. 4 opened at Farmington with a capacity for three hundred and thirty-three.

In 1900 it was estimated that we had in our state twenty thousand feeble-minded and epileptics, and it was thought wise to erect an institution for the care of the most indigent of this class of sufferers, so the institution at Marshall was opened in 1901 and has a capacity for five hundred and fifty one patients. St. Louis City maintains an institution for the insane known as the City Sanitarium, which is the largest insane asylum in our state and is caring for 2,412 patients at the present time.

The various almshouses or county homes throughout the state are housing a considerable number of weak-minded and obviously insane people who rightly belong in our state hospitals. It was estimated a few years ago that there were about five hundred in the state maintained in this manner, because it seemed to be the cheapest way to maintain them. We also have in Missouri fifteen private hospitals for mental sickness, caring for a total number of the so called mild mental cases of eight hundred and six patients.

During the last two decades all of our state hospitals in Missouri have been greatly enlarged by various additions, in order to keep pace with the increasing numbers of new cases of mental diseases. Every one of our state hospitals is now full to the very limit of the capacity, and I am reliably informed that there are now on the waiting list fifteen hundred applications to be enrolled at Marshall when the new quarters are completed and beds available there.

Last year I made a complete statistical survey of all institutions in the state which were caring for the insane and mentally afflicted. The total number in these hospitals, state and private, was nine thousand one hundred and seventy nine patients. The per capita yearly cost of maintenance of the patients now in our state hospitals, (not including the St. Louis Sanitarium and the other private hospitals) was estimated at \$353, or a total yearly expenditure of \$3,240,207.

Somewhere in Greek mythology we are told of an age, "The Golden Age," of universal health and happiness during which there was no insanity or mental diseases. Men were perfect in body and in mind. The earth brought forth all things necessary for man without his labors. Perpetual spring reigned and the flowers sprang up without sowing. Everything worked in complete harmony and man lived serene and satisfied until Jupiter became provoked and pronounced a curse on man in

the form of a woman, whom they called Pandora.

Now this new formed creature was fashioned in heaven and presented to innocent man as the gift of all the gods and to her was given the keeping of the Sacred Casket of the Immortals, with the request that she must not open its lid. As time passed on, some indefinable curiosity prompted Pandora to lift the forbidden lid, and forthwith, we are told, there escaped a multitude of plagues for helpless man, such as syphilis, neuritis, jealousy, fear, anger, feeble-mindedness, imbecility, hysteria, delusions, epilepsy, heredity and a host of others, with insanity to play havoc with one's mind.

We are living in an age far removed from that Golden Age, and the present tendency of our civilization is toward mental failure, we are compelled to conclude when we investigate the behavior of our own race. When we visit our asylums, juvenile courts, reform schools and prisons and learn of the astonishing numbers of victims and inmates now being studied and handled and cared for in all these institutions, we are appalled. To have a complete understanding of these innumerable mental eccentricities, stupidities, lethargies, impracticabilities, losses of control, obsessions, impulses, perversions of feelings, delusions and hallucinations, moral abnormalities, double personalities, as well as the manifest forms of insanity, would imply a knowledge so comprehensive that no one human brain could contain it all. In fact it would take us back millions and millions of years into the vast evolutionary pyramid of the swarming millions of microbes in which life itself began.

HISTORY OF INSANITY IN ANTIQUITY

Mental diseases have existed since man has become a thinking being. Certain knowledge of mental diseases can be traced to the very dawn of man's existence. Ancient writings abound in reference to man's madness. Homer, Cæsar, Shakespeare and the various writers of the Old and New Testaments allude to many incidents which were unquestionably acts of what we now call insanity. In the writings of St. Mark (5:1-5) an interesting example of a case of insanity attributed to an "unclean spirit" is recorded. He states that no man could bind this fellow with chains nor tame him.

The ancients of course attributed the peculiar behavior of the insane, or as they called them, mad men, or those that were beside themselves, to the work of the evil spirits. Much mystery seems to be associated with insanity in these modern days, as to the cause of a deranged mind, as though the brain of man,

admittedly the most intricate and complex organ known, were not subject to disease. It remained for Hippocrates to proclaim that the brain was the organ of the mind and that insanity was the manifestation of a diseased brain.

HISTORICAL PERSONAGES WHO WERE MENTALLY UNBALANCED

Lucretius, the great poet of ancient Italy, and Tasso, the poet of modern Italy, both wrote their greatest works of fame during the interruptions of their frequent attacks of mental alienation. Cesar was an epileptic. So was Charles V, who celebrated his own funeral rites in his own presence in a monastery. Linnaeus died of senile dementia. Raphael had suicidal mania. Pascal could not bear to see his father and mother together, though pleased to see each separate. (Monomania.) Walter Scott during the latter part of his life had visions betokening an unbalanced mind. Michael Angelo attempted to starve himself to death. Richelieu had attacks of insanity. Descartes imagined himself followed by an invisible spirit, urging him to pursue his search of the Absolute. Goethe fancied he saw the image of himself coming to meet him. Cromwell had violent attacks of melancholy. Mohammed was an epileptic and claimed to be a messenger from God and to have had interviews with the angel Gabriel. Mozart was subject to fainting fits of peculiar mental nature, before and during the composition of his famous "Requiem." Condillac was a somnambulist. So was Shelley. Swift from early childhood was mentally peculiar. Samuel Johnson was a hypochondriac, had hallucinations and convulsions. Southey wrote verses before he was eight years of age and died an imbecile. Cowper was a sufferer from melancholy; he attempted suicide by hanging himself but the rope broke. Keats, Burns, George Eliot, Carlyle, and Newton were all sufferers from some form of nervous or mental abnormality. Alexander the Great, suffered from neurosis. Lord Byron had delusions of persecution. Napoleon I suffered from hallucinations. Lamertine was a crank.

INSANITY A LEGAL AND SOCIOLOGICAL CONCEPT

Many years ago the law attempted to define what was called the "guilty mind," which meant the harboring of a vicious impulse by a mind that was normally constituted or sane. The law was trying to define a guilty mind and also what constituted a disordered mind from the legal point of view. In order to determine what constitutes a disordered mind we must remember three individual concepts, with which the law is constantly dealing and which are

very important. These are Responsibility, Guilt and Punishment.

The law undertook to say that a person who harbored a vicious impulse and permitted himself to execute that impulse was responsible; but the person who according to the law was "mad"—was "beside himself"—was not responsible. That meant that the individual who, because of mental disease, was not responsible was by the same token not guilty. He was innocent and therefore not subject to punishment for any of his own acts.

Now as regards mental responsibility, the law of our state and in fact all the states, has lagged far behind the study of mentality. Practically all of our laws relating to the insane still adhere closely to the old McNaghten rules, laid down in England in 1843, which have it, "that a person is not excused from criminal liability as an idiot, imbecile, lunatic or insane person except upon proof that, at the time of committing the alleged act he was laboring under such a defect of reason as: (1) Not to know the nature and quality of the act he was doing; or (2) not to know that the act was wrong."

Doctor William A. White recently said: "It seems to me that the concept, Insanity, has no longer, if it ever had, any medical usefulness. It is solely a legal and sociological concept. The designation insane is only properly applied to patients who have been declared insane by due process of law." If this narrow legal interpretation, or definition, were applied to all the patients in our state hospitals, about two thirds of those now confined could be released, and yet some of the most dangerous to themselves and to society would be set free.

To the physician, insanity has a far broader and more constant significance, even though the definition be far from satisfactory. To the lawyer, a patient may be legally insane for one purpose and legally sane for another. (In case of making a will.)

Medically, we are well aware that it is often impossible to draw a sharp and fast line between sanity and insanity. Sane people differ widely in their behavior under identical circumstances. Those of you who have followed closely the medical testimony in the Leopold and Loeb case, the Frank McDowell case, the Harry K. Thaw case and other similar trials of criminal court cases, can appreciate the different viewpoints in scientific medicine and the antiquated legal proceedings relating to insanity.

All degrees of abnormal minds deviate from the normal. The abnormality may be manifested in the whole mental output or it may be in only one of the various mental functions. The defect may be only a quantitative men-

tal variation, as in hyperexaggeration of thinking (autistic thinking), or diminished or psychic paralysis; or it may be a qualitative change, as in the perversions, distortions, phobias and some form of delusions.

We also have congenital and acquired deficiencies in the mental equipment, as well as a great variety of hereditary mental subnormals. The morons, or adults with an intelligent quotient of twelve years, whose moral sense is so undeveloped that education has no marked influence upon their nature. Then we have mental abnormalities affecting the intellect, the memory, the will, the emotions, the judgment and the personality. The most marked intellectual defects are met with in the acute confusional insanities; epileptic deliria, the polyneuritic psychoses, manic depressive, senile and precocious dements. Emotional disorders are typified in circular insanity, dementia precox, paranoia, psychopathic personalities and allied states.

Some of the most perplexing symptomatology is met with when we attempt to characterize psychologically certain qualitative abnormalities of mind, when we meet with personality defects of autopsychic disorientation where the person believes that he is some one else, his personality dominated by another self, a self oftentimes possessing miraculous powers and peculiar abilities; some of these believe that they are the owners of the whole wealth of the universe, the rulers of the world, the supreme deities, etc. These patients are extremely impressionable, suggestible, and unstable in their moods and their ideation. It is in their particular cases that it has been held that psychogenic disturbances often coexist with the inspiration of genius.

The typical psychopathic personalities are very interesting as well as peculiar individuals in that they are often valuable members of society, and sometimes accomplish a great deal of good until they are confronted with some responsibility; then they succumb to peculiar fixed ideas and perverted reasoning powers, pathological inconsistencies and an instability of will. Many historical characters were undoubtedly psychopaths. Numerous cases of mental illusions and abnormal behavior from a slightly disordered brain can be quoted; men of powerful memory and brilliant imagination have been found so afflicted. In our survey of mental diseases, a large group of deviations from the normal most relevant to the subconscious radiates in many directions, presenting the most variegated symptomatology and represent the history of the divergent phases of consciousness.

The study of evolution has proved that the mind of man has evolved from a mind far less

complex; aroa conduct is largely conditioned and controlled by powerful instincts and subconscious urges and desires inherited from all past conditions and existences through which the race has come. Since 1895, when the fruits of the researches of Brewer, of Vienna, and his pupil, Sigmund Freud, were made known to the scientific world we have had revolutionized the whole field of psychiatry and psychology as it relates to the etiology and treatment of the functional psychoses.

Freud has shown that these primitive urges and desires and instinctive tendencies, repressed and forgotten in the making of our complicated moral and social concepts, really become lodged in the realm of the subconscious where they become sources of damned up energy, so to speak, or complexes, which represent points of collision between the vital urges and the ruthless world of reality, and that they act very much like steam in a boiler, constantly seeking an outlet. Given a certain weakness in the organism, with no mental or physical safety valve, these repressed instincts and urges and desires assert themselves in a neurosis, or psychosis, or perversion, converting themselves into physical and mental symptoms which cannot be traced to any physical cause.

Freud has shown that there exists in the wish-fulfilling mechanism of dream formation certain definite laws, and psychoanalysis has demonstrated that these laws undoubtedly underlie and determine many of our peculiar ideas and much of the abnormal behavior exhibited in certain forms of insanity and mental diseases. Psychiatrists who have studied the subject from an unprejudiced standpoint are agreed that the most significant achievement in the history of this science is Freud's work in analytical psychology.

THEORIES RELATIVE TO THE ETIOLOGY OF THE FUNCTIONAL PSYCHOSES

Various attempts have been made to explain the etiology of the functional psychoses in terms of one or the other of the primal instincts. Probably the Freudian school over emphasized the part played in life by the sexual element. It yet remains, however, that sex is the primary function of Nature as reproduction is her chief end. The biologists of the last generation insist so strongly upon the law of the "struggle for existence" and the "survival of the fittest" that we almost believe that the instinct of "self-preservation" was the one law of life and the one motive which dominated the lives and conduct of men.

Trotter has further demonstrated to us that our conduct is dominated by the "herd in-

instinct" almost as effectively as Freud has demonstrated that it is all sexual.

Adler seems to have demonstrated that all nervous diseases as well as mental abnormalities result from what he calls the "over-development of the masculine tendency" or, as others would call it, the instinct of "self assertion" as a compensation for some physical inferiority.

The school of Jung seems to have combined the views of Freud and Adler, affirming the existence of two instincts, that of power and that of love, as dominating the abnormal behavior of man.

Hadfield maintains that individual traits of character, particularly nervous, moral and mental diseases, are primarily due to conditions of early environment. He asserts that perversions of character and behavior may be due to disappointment; a sexual assault may produce timidity, hysteria or sexual frigidity. Such occurrences are particularly liable to produce permanent mental defects if they occur in childhood, and if they are repressed and forgotten.

Bergson would say that, like sheep, pathological types of mental life were due to relaxation of attention to our environment. Absent-minded persons frequently perform very complex series of actions while wholly oblivious to what they are doing. Psychiatrists believe that the things said or done while in a state of absentmindedness have in every instance a meaning which is unconscious.

Professor William James maintains that much of our behavior is due to reflex and automatic mental phenomena.

Morel, the great investigator of racial degeneration, traces all this mental and moral weakness chiefly to poisons, as alcohol, drugs, tobacco, unripe maize, and to organic poisons, as syphilis, malaria, tuberculosis and goiter.

Max Nordau believes that residence in large towns and cities expose the individual to so many unfavorable influences which diminish his vital powers and bring about such an enormous increase of organic expenditure, that the nervous system is hopelessly fatigued and the brain energy exhausted with the increased intellectual interests of today.

I believe that Treadgold has spoken nearer the truth when he said that ninety per cent. of all mental unsoundness, lunacy, idiocy, imbecility, and feeble-mindedness can be traced to hereditary influences, to bad germ plasm. Mental diseases like somatic disorders are the result of innumerable causes. Disharmony in any of the instinctive urges and tendencies, emotional natures, social circumstances as well as an hereditary predisposition to mental un-

soundness, are all potent factors in the production of insanity and mental diseases.

There are nearly one million feeble-minded persons in the United States who are propagating their own kind. Goddard has said that they are not only propagating their kind, but that they are propagating them six times as fast as the intelligent people are propagating their kind, and further that they are propagating according to the Mendelian law. Insanity and mental diseases constitute an ever increasing menace to our state and national welfare. Of this fact there can be no doubt in view of authoritative statistics, both as to the number of yearly admissions to our asylums and as regards the plea each year for greater sums of public money for the care of these unfortunates.

WHAT ARE WE GOING TO DO ABOUT IT?

Against this formidable adversary,—hereditary mental weakness,—stands biology. In recent years new discoveries in breeding and heredity have been worked out which may completely alter human destiny. A new science has emerged from the biological laboratories in recent years the discoveries of which offer to place in man's hands the possibility of his own perfection. This is the new science of applied biology, or as it is more generally known "Eugenics," the science of breeding a better race of human beings.

Cattlemen are already breeding just the kind of cows, race horses, hogs, sheep and poultry that they want. The United States government has supplied every farmer with literature telling him how to raise the best crops, how to produce the finest pigs and the fastest race horses and cows which will produce the most milk and butter fat. How much more important that every family should be instructed in laws of heredity and how to breed strong, sane, healthy and efficient human beings.

The one great hope of reducing the number of mental failures lies in prevention. Alcoholic and drug psychoses and paralytic dementia are absolutely preventable forms of mental diseases. Idiocy, imbecility, feeble-mindedness, epileptic and manic depressive psychoses, can be controlled to a very large extent when we come to the question of breeding better brains in human beings, as they are now doing with live stock. The time will come when the one great duty of the state to these unfortunates will be to exercise the supremest of all humanities in seeing to it that they are spared the pains and penalties, the tragedies, the sin, the crime of being born.

Eugencies and euthenics must become dominant factors of study and concern if we hope

ever to stem the tide of the constantly increasing army of mental diseases and insanity.
338 Grant Street.

STATISTICAL TABLES COMPILED DURING
1923 AND 1924

Table 1. *Census of the State Hospitals, December 31, 1924*

State Hospital No. 1.....	1,394 Patients
State Hospital No. 2.....	1,825 Patients
State Hospital No. 3.....	1,331 Patients
State Hospital No. 4.....	851 Patients
Missouri Colony	670 Patients
St. Louis City Sanitarium (July 31, 1923)....	2,901 Patients
Private Hospitals in Missouri (Mental cases)...	806 Patients
Total	9,778

INSANE AND MENTALLY SICK

Table 2. *Expenditures for Biennial Period 1923 and 1924*

State Hospital No. 1.....	\$ 918,921.97
State Hospital No. 2.....	1,092,442.67
State Hospital No. 3.....	758,233.52
State Hospital No. 4.....	689,767.35
Missouri Colony	462,136.11
Private Hospitals (Roughly estimated).....	750,500.00
St. Louis City Sanitarium (Roughly estimated)...	2,900,550.00
Total cost of maintenance (for the two years)...	\$7,572,551.62

Table 3. *Admissions to Missouri State Hospitals in 1923 and 1924*

	Males	Females	Total
State Hospital No. 1.....	384	244	628
State Hospital No. 2.....	572	454	1,026
State Hospital No. 3.....	420	296	716
State Hospital No. 4.....	268	221	489
Missouri Colony	105	98	203
St. Louis City Sanitarium (1921-1922)...			1,645
Admissions to the Private Hospitals (Roughly estimated)			1,000
Total Admissions.....	2,050	1,686	5,707

Table 4. *Percentage of Increase of Insanity in Missouri From 1910-1918. From Mental Hygiene Survey in Missouri, 1918-1920.*

In Institutions	24.9%
Increase in the general population.....	4.4%
Insane in Missouri Institutions per 100,000 of the general population in 1918 was 223.9.	

Is insanity on the increase in Missouri?
Statistics show positively that this must be answered in the affirmative.

Table 5. *Valuation of State Hospital Lands and Real Estate, 1921-1922.*

Land Acreage	\$ 4,854.00
Personal Property	964,651.63
Real Estate	4,771,321.50

Table 6. *Population of Institutions in the United States, 1918. Compiled by National Committee for Mental Hygiene.*

Insane	239,820
Feeble-minded	39,381
Epileptics	11,944
Inebriates	3,563
Total	294,710
Per capita yearly cost of maintenance was \$306.97. Total yearly expenditure \$43,926,881.88.	

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OCULAR MANIFESTATIONS IN SYSTEMIC INFECTIONS

J. W. SHERER, M.D.
KANSAS CITY, MO.

In making up the symposium on the eye the committee assigned to me the subject of systemic infections. This would logically include the invasion of the general system by any infective micro-organism. The list is a long one and includes of course the infectious fevers such as typhoid, typhus, measles, scarlet, smallpox, vaccinia, diphtheria, whooping cough, mumps, tuberculosis, lues, malaria, gonorrhea, influenza and erysipelas.

Practically all of these infections have at times ocular phases. It is manifestly impossible and probably undesirable to attempt to touch upon them all. I want to make my topic surgical as far as possible as I believe this will be more interesting to a surgical assembly. The eye involvement in a number of these infections is quite rare and is not of general interest. In certain others, for example, tuberculosis and lues, it is very frequent and of the greatest interest and importance. Tuberculosis and lues attack any and every portion of the eye and its adnexa. Either makes a subject much too large for the present occasion; also the subject matter is common and trite and I believe there is another portion of the subject of greater interest and more nearly allied to surgical work, i. e. certain eye conditions occurring as complications of septicopyemic and toxic systemic infections.

In this connection we are concerned chiefly by the ravages of certain strains of streptococci and staphylococci, the pneumococcus, the gonococcus and the common colon bacillus. I want you to think of these micro-organisms as primarily phlogogenic and only secondarily pyogenic, i. e. the first action is to cause a focus of inflammation with its usual phenomena

of redness, heat, swelling and pain, and then later if perhaps it continues to liquefaction, to cause pus production.

AXENFELD'S CLASSIFICATION

The clinical entities produced in the eye are iridocyclitis, metastatic ophthalmitis and the septic retinitis of Roth. Ring abscess of the cornea and spontaneous perforation of the sclera are included in this category.

Before I describe the pathological conditions produced let me say a word about the cause; and it is precisely here that we are concerned as surgeons.

Some focus of infection occurs somewhere in the general tissues in which there is present some one or other or several of the above mentioned micro-organisms. This focus may be unknown to the patient and may require some skill and industry on the part of the doctor to discover. For example it may be a dental abscess, or an infected nasal sinus, or an old chronic tonsillar infection, or a chronic appendicitis, or a chronically infected prostate, or some other one of many possible foci.

These cases of toxic iridocyclitis, are constantly and frequently recurring in every one's practice. So far as appearances go the attack may be quite indistinguishable from the same kind of inflammation caused by tuberculosis, lues or rheumatism, or possibly, as quite occasionally occurs in my practice, the rheumatism and the iritis are both caused by the same hidden focus of infection.

Groenouw has collected statistics of 166 cases of metastatic choroiditis. Of these 166 cases, 76 were due to puerperal sepsis, 60 were due to general surgical conditions and 30 were cryptogenic. These cases of metastatic choroiditis occur in conditions of profound sepsis with the usual septic temperature curve, with sweats and chills, often with nausea and vomiting. Ulcerative endocarditis is a very frequent complication. Some septic material gains entrance to the general circulation and lodges in the eye, either in a ciliary or a retinal artery. The retinal arteries are end arteries and when a septic embolus lodges in a retinal artery it cuts off from nutrition that part of the vessel beyond it. It is possible that an embolus may lodge in the central artery of the retina in which case of course the entire retina is cut off from further blood supply and total blindness of the eye at once results. As the condition progresses hemorrhages can be seen at different places in the fundus. Foci of inflammation are set up with exudate. Soon the media becomes so cloudy from round cell and fibrinous infiltration of the vitreous that the fundus can no longer be seen. These cases vary greatly in severity. Sometimes the

first symptom is loss of vision. When the septic embolus lodges in the choroid after passing through a ciliary artery a condition of suppurative choroiditis supervenes. Occasionally the attack is bilateral. As a rule these cases are fatal. In 69 cases collected by Leber, 42 were unilateral and 27 bilateral. In Groenouw's statistics 85 per cent. of bilateral cases were fatal.

As regards the anterior portion of the eyeball septic embolism of the anterior ciliary arteries sometimes causes one or another of two remarkable conditions, ring abscess of the cornea and spontaneous perforation of the sclera.

The ring abscess of the cornea results from an overwhelming development of the infecting micro-organism in the anterior chamber which causes sloughing of the cornea at first in a ring shaped manner around the periphery and later of the entire cornea.

The spontaneous perforation of the sclera occurs regularly at a point just behind the insertion of a rectus muscle where a preformed path exists through the sclera for the passage of ciliary arteries. The pus discharges through one or other of these passages. Either condition is fatal to the eye. In mild cases of metastatic ophthalmitis recovery sometimes occurs with a little vision. As a rule however shrinkage of the ball or phthisis bulbi occurs, or in severe cases the surgeon needs to decide whether to enucleate or eviscerate. Evisceration should if possible be chosen as enucleation is attended by danger of meningitis.

The septic retinitis of Roth is due to soluble bacterial toxins floating in the blood stream and lodging in the capillary web of the retina. There is no embolism nor thrombosis, numerous small, round, red spots, or hemorrhages, are discoverable with the ophthalmoscope. Also numerous small, white spots. These are usually grouped around the disc and macula and lie between the vessels and not connected with them. The white spots are small areas of fatty degeneration and often are in the center of a red spot but not always. The vision as a rule is but slightly affected. However, this condition is of importance as to diagnosis and prognosis, having a very grave significance.

The iritis and iridocyclitis of cryptogenic origin is of greater interest and importance because constantly occurring in practice. The usual symptoms of iritis are contracted pupil, discolored iris, ciliary injection, tenderness to the touch, photophobia and impaired vision. These cases respond to the usual treatment for this condition, atropin, hot fomentations and a bandage. A full dose of calomel should be

given by the mouth and full dosage of salicylates intravenously are indicated.

The important thing however is to find the source of the toxemia and remove it. This may be a matter of difficulty but should not be neglected as otherwise these attacks continue to recur. Infected tonsils must be removed, chronically infected appendixes must be removed. Infected sinuses must be opened and drained. In fact, wherever the focus of infection may be it should be eliminated as perfectly as possible.

In 1916 Irons and Brown reported 100 cases of iridocyclitis and in 1923 another 100. The source of infection was located in each and removed so far as the co-operation of the patient permitted. In October, 1926, follow-up reports were secured from these cases to the number of 50. Of these 50, seven recurred, the others did not.

A glance at the series is very illuminating. Of the 43 nonrecurring cases, 2 were luetic, 3 tubercular, 10 were due to alveolar abscesses and 17 were due to tonsillar infection; 11 had two or more combinations of these.

The 7 cases which reported recurrence of the iridocyclitis are classed as follows:

1. Tonsillar. Patient refused operation.
1. Lues, tonsils, teeth. Operation refused.
1. Prostatic infection. Treatment discontinued before recovery was complete.
1. Prostatic infection. Treatment discontinued before recovery was complete.
1. Sinus.
1. Tubercular. Infected tonsils and teeth.
1. Focus not discovered.

In 23 of these cases the attacks of iridocyclitis had recurred one or more times before they came under observation by Irons and Brown. In 10 of these cases there was accompanying arthritis.

Nothing more conclusive could be desired than such an impressive series of observations as these.

1232 Rialto Building.

SOME CAUSES OF HEART DISEASE OTHER THAN INFECTIONS*

J. F. CHANDLER, M.D.

OREGON, MO.

In attempting to write on the subject assigned I discover there are many causes. And knowing my inability to handle the subject properly, and the time that would be required in an effort to cover the sub-

ject fully, I have taken the liberty to change the title to, "Some Causes of Disease of the Heart Other Than Infections."

In preparing this paper, I have a feeling that after discussing the subject as best I can, there will yet remain much to be said, much which I hope may be brought out in your discussion of the paper, and I be enabled thereby to better understand the subject. I hold to the opinion that the cause of almost all pathological changes which take place in the heart originate from infection of some sort, although we may be unable to trace the origin. Yet we know, too, there may be changes in the organ otherwise than from infection. We realize, of course, the difference between disturbance in function arising from affections elsewhere.

That the heart may perform its function well it is necessary that all other organs in the body act in harmony; that there be no embarrassment of the organ on which depends the power by which the life giving fluid is distributed to every fiber in the body.

The heart being composed of muscular tissue may be subject to strain and exhaustion as are other muscles. But unlike other muscles it cannot be put completely at rest, it is at all times on the job. Such being the case it is needless to say, that it should not be subjected to unnecessary work. When required to beat faster because of physical exertion, mental excitement, or stimulation by other causes the periods of rest are encroached upon and, when too long under the strain, may result fatigue or perhaps exhaustion. The heart laboring under a heavy load continuously for a long period may develop an organic lesion.

The heart may be likened to the engine of an automobile laboring under a heavy load with spark improperly timed, may knock (be a murmur) drop beats, become rapid or slow in action, while normal within itself. In this instance we should not classify the disturbance in rhythm as due to functional disease, "a disease in which the function or secretion of an organ is vitiated but its structure is but little changed." For if we remove the load from the heart we restore function.

Many disturbances of the heart may come from other than disease of that organ and should not be treated as such. It seems to me that we should not speak of malformation as disease—congenital disease. While it is abnormal it may be that dis-

*Read before the Holt County Medical Society, Forest City, October 7, 1926.

ease in no way interfered with formation, it being due to failure of nature to complete her work, and if recovery does take place it is up to nature to finish what she started. I doubt that we should call it pathological. As we have it from Fitz: "Disease is regarded as representing the result of a series of processes called morbid or pathological." One author puts it thus: "Physiologic processes gone awry."

A child born of enfeebled parents, or one suffering from malnutrition, want of suitable food, etc., may be slow in developing and suffer from a weak heart and poor circulation, yet we would not classify the case as congenital disease of the heart.

Our most common cause of disease of the heart, other than that from infection, is strain of some sort. It may come about slowly through continuous physical or mental effort, or develop suddenly from violent exertion or emotional excitement. We may have strain result from overstimulation of the organ by medicines given, as we may think, to correct some faulty behavior of the heart due to its laboring under an overload. Stimulation from administering of strychnine, digitalis, or alcoholics in massive doses, when too long continued, may result in strain, and may be followed by exhaustion of the heart muscle. This is more likely to occur in a heart with myocardium already weakened by disease. "Going the gait" that many do in modern life, excess in many ways, too many waking hours, moving too rapidly in society, drinking and smoking to excess, result in damage to the heart and frequently in complete failure of the myocardium.

Another very common cause of cardiac trouble with disturbance in rhythm is due to emotion. Although the heart may not be primarily affected, if the emotional disturbance is of frequent occurrence or of long duration it may result in degeneration of the heart; if sudden and severe, shock and death may follow immediately. Owing to the intimate relation existing between the suprarenal glands with the nerves that effect the heart, the sympathetic and vagus, emotion may bring about a change in the caliber of the blood vessels, lessening their lumen thereby raise blood pressure and throw more work on the heart. When too long continued this may bring on arteriosclerosis and degeneration of the myocardium.

Excesses of a sexual character perhaps more than emotion from other sources are

disastrous to the heart and blood vessels, persons addicted to sexual excitement frequently dying from sclerosis of the coronary arteries.

Worry, constant worry, is a load which bears heavily on the heart. Continual worry and anxiety destroy nerve force and interfere with proper nourishment of the body (through the sympathetic system) indigestion with loss of appetite taking place with the result that the food taken is improperly prepared for absorption, nourishment of the body does not take place, and along with this occurs atrophy of the heart.

Acute dilatation usually occurs in the young and is frequently brought on by strain in a heart with weakened walls, although it may occur at any age and result from a pathological change in the walls of the heart, especially when subjected to strain. We have a chronic form accompanied by hypertrophy which is frequently met with in older persons.

Bronchial asthma while not a very common cause of heart disease is not to be overlooked, owing to the fact that, if the attacks come on at short intervals—especially if associated with emphysema, as it frequently is—strain to the right ventricle and dilatation results. For, like a rubber band after stretching several times fails to return to its former size, the heart under strain from repeated attacks of bronchial asthma—being constantly on the job with little chance to recover—dilates and remains dilated.

What may result in strain of the heart in one individual may not do so in another owing to the fact, in part at least, of one having acquired resistance through special training by which the muscular system may become hardened or developed to a degree beyond that of the one without preparation for the trials to be endured.

Hypertrophy of the heart is quite common and may be of physiological or pathological import. Physiological from systematic work and proper nourishment, as it appears in the athlete, and primary idiopathic as in the common laborer. It may be pathological as a result of overwork and causes of a morbid nature. As there are many forms of hypertrophy of the heart from pathologic changes in the heart and blood vessels, I shall not take the time to describe them nor name them for, I think, in most instances the pathologic change results from infection.

As a result of impaired nutrition, pro-

longed anemia, obesity, chronic alcoholism, acute arsenical poisoning, and phosphorus poisoning, we may have fatty degeneration of the heart. I think we may also have fatty heart from faulty elimination and from infectious disease. And, as part of general obesity there may be fatty infiltration and deposit of fat around the heart. It is known that fatty metamorphosis may affect the entire organ or be limited to portions of it. I do not enter fully into the etiology but leave an opening for much to be said concerning fatty heart.

I think it a rule that overstimulation of an organ is followed by relaxation, or fatigue, and sometimes complete exhaustion takes place. I have found it necessary in a few instances to place a patient in bed on his back and keep him there until his heart rested, after being exhausted from overstimulation by alcoholic drinks following a spree.

RADIOGRAPHY: AN INDISPENSABLE AID IN CHEST DIAGNOSIS*

L. R. SANTE, M.D.

ST. LOUIS

Diagnosis may be considered as the process of detection and evaluation of all evidences of diseases and determination therefrom of the most probable clinical entity causing them. In this process of investigation the physician uses all methods and devices at his disposal to come to a conclusion. Even with all methods at his command this is often very difficult. It is my purpose to point out the part which radiography plays in one small portion of this process, namely, that of chest diagnosis.

Harvey Cushing,¹ in his "Life of Sir William Osler," in pointing out the reluctance of physicians to accept newer methods of diagnosis says: "The American physicians indeed were holding their twenty second annual meeting (American Medical Association, May, 1907),—perhaps, of all of the papers the only one which aroused no discussion was by Francis H. Williams on the detection by the X-ray of early pulmonary tuberculosis. It has taken nearly two decades for physicians to lay aside the stethoscope in favor of this more exact method of diagnosis."

This remark no doubt made in jest, expresses the extreme attitude of a few and fortunately a very few radiologists. The time has not yet arrived nor, in my opinion, will it ever come when the stethoscope and other methods of physical examination will be discarded in chest diagnosis. May I take to task also the clinician who ridicules the radiographic findings in chest conditions except when they conform to his own physical findings. Either method of examination may disclose conditions unsuspected by use of the other so that a diagnosis in any instance is hazardous without utilizing all methods at our command. Serial radiographic examinations of chest cases, or films taken at short intervals during the course of the disease, aid materially in following the progress of the disease and may even provide the information necessary for the determination of the diagnosis, otherwise impossible. I will endeavor as we proceed to point out not only instances in which the radiographic examination proved of decisive importance in establishing the diagnosis, in following the progress of the case or in serving as a guide to the treatment of the patient, but also the limitations of radiographic examination in certain conditions.

Pulmonary tuberculosis (Fig. 1). X-ray examination has proved of greatest aid in the diagnosis of pulmonary tuberculosis. It has found its greatest usefulness in the detection of minimal lesions. When tuberculosis is well established radiographic examination is not essential for diagnosis; even in advanced cases, however, the record of various stages of the case preserved in radiographs taken at intervals during the disease serves as an indication of the progress and of the prognosis of the case. The manifestations of pulmonary tuberculosis in children under eight years of age represent an initial infection of the disease. According to Opie and Anderson² first infections in pulmonary tuberculosis occurring in children do not tend to occur any more often in one portion of the lung than another, the base of the lung being involved as frequently as the apices. In this type the initial lesion is usually relatively small, the enlargement of the regional lymph nodes forming the most conspicuous lesion. The tracheobronchial nodes become large and caseous and overshadow the primary lesion itself. Ghon³ has shown that where the tracheobronchial nodes are the site of tuberculous

*Read before the joint meeting of Chicago Medical and Radiological Societies, Chicago, January 12, 1927.

1. From the Radiology Department of St. Louis City Hospitals and the University Hospitals of St. Louis University Medical School.

involvement a focus of infection is always present in the lung, although it may be very small. Upon reaching adult life in those who have successfully resisted infection of childhood reinfection with tubercle bacilli produces a much different picture. It is quite probable that the method of reinfection is by way of the respiratory tract and that the initial lesion is near the periphery of the lung in the apical region. The minute anatomy of the lung described by William Snow Miller⁴ would indicate that the bronchial and pulmonary circulations mix in a plexus of capillaries near the periphery of the lobule and it is quite probable that the stagnation of the circulation thus produced may favor the propagation of any

cilli surrounded by body cells, nature's effort to limit the disease. Lymphatic drainage tends to increase the peribronchial markings of this region and gives rise to a fan like structure, (Dunham's fan⁶), one of the diagnostic points in minimal tuberculous lesions. As the disease progresses the infiltrations coalesce and the disease spreads both by continuity of tissue and by way of the respiratory system. The disease may become arrested and the lesions even heal. Evidence of such reaction is seen in the radiograph in the tendency of the individual lesions to become fibrosed and calcified. Even where calcification has occurred it is hazardous to pronounce a given lesion inactive from the radiographic findings since active infection may be present. Opie⁷ says; "It is not possible as many believe to draw a line between clinical tuberculosis and latent tuberculous infection." In other words, a pulmonary lesion produced by tubercle bacilli must, under all circumstances whether active or arrested, be spoken of as tuberculosis. The X-ray diagnosis is in a sense an anatomical diagnosis; it remains for the clinician to determine activity.

Acute caseous tuberculous pneumonia. Under certain circumstances not yet fully understood repeated small infections with bacilli produce a sensitization of the individual against subsequent infection with the disease. If reinfection in sufficient amount occurs in such a sensitized individual it gives rise to an acute pneumonic reaction known as acute caseous tuberculous pneumonia. Radiographically this resembles lobar pneumonia⁸ very closely at the start, but when the expected crisis does not materialize and the consolidation shows no radiographic evidence of resolution the true nature of the disease becomes apparent. Physical examination would disclose the consolidation, but only serial radiographic films could give a clear understanding of the pathological process going on.

Miliary tuberculosis. General dissemination of tubercle bacilli through the blood stream results in miliary tuberculosis. Radiographically three degrees of military tuberculous infection have been encountered,⁹ namely, acute, chronic and healed. Physical signs are of very little value in diagnosis of miliary tuberculosis. The extreme prostration in acute miliary tuberculosis may give some clue as to the diagnosis, but it remains for the radiographic picture of multitudes of minute infiltrations scattered

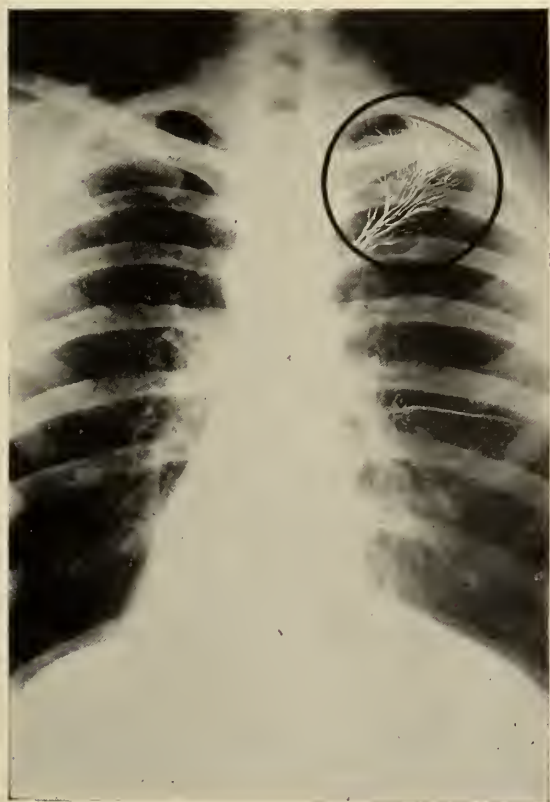


Fig. 1. Reinfection of adults with tuberculosis starts in the apex near the periphery of the lung where the bronchial and pulmonary circulations mix and the blood flow becomes sluggish favoring growth of any tubercle bacilli which lodge here. The engorgement of the lymphatics draining the area toward the hilum give rise to fan shaped markings which are significant in the radiographic diagnosis of the disease. X-ray examination is of greatest aid in detecting incipient tuberculous lesions.

tubercle bacilli which may lodge there. Radiographically then,⁵ we would expect the initial lesion of reinfection in the adult to be represented by small infiltrations really representing colonies of tubercle ba-

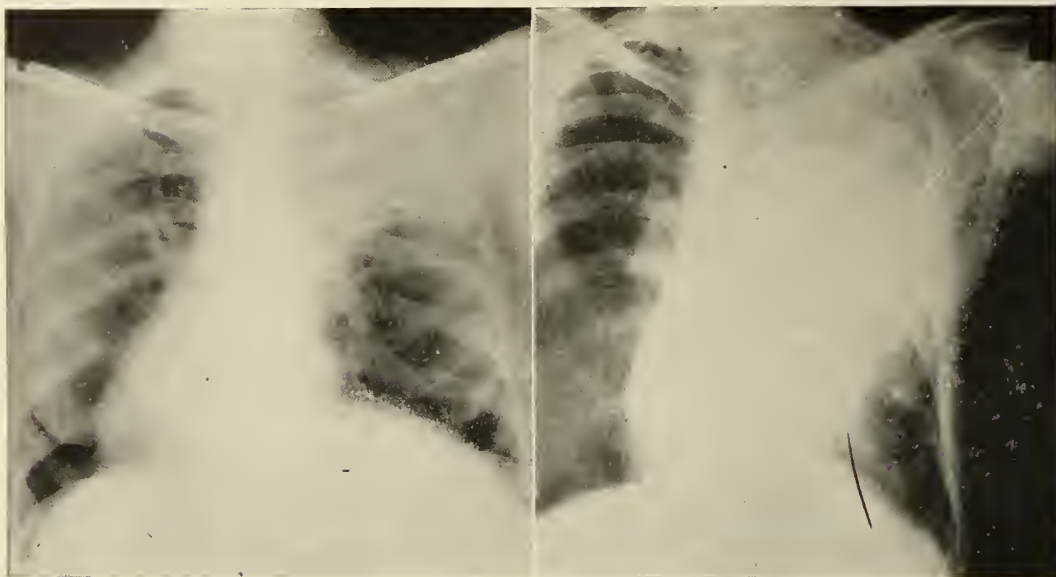


Fig. 2. Patients who have been sensitized to infection by tubercle bacilli develop an acute pneumonic reaction to reinfection with the disease, acute caseous tuberculous pneumonia, which radiographically resembles lobar pneumonia but does not resolve within a short time like lobar pneumonia but breaks down and forms cavities months later. X-ray examination will determine the differential diagnosis.

uniformly throughout both lungs to establish the true nature of the disease. In chronic and healed forms the diagnosis can be made only by radiographic examination. Practically no physical signs are present which would lead one to suspect the presence of the disease.

Acute consolidations of the lung—Lobar

*pneumonia.*¹⁰ Lobar pneumonia produces such a clear cut clinical picture and the physical signs are so well defined in complete lobar consolidation that X-ray examination would not seem to offer any additional information. The benefit of X-ray examination in such typical instances is to be found in the ability to follow the future course of

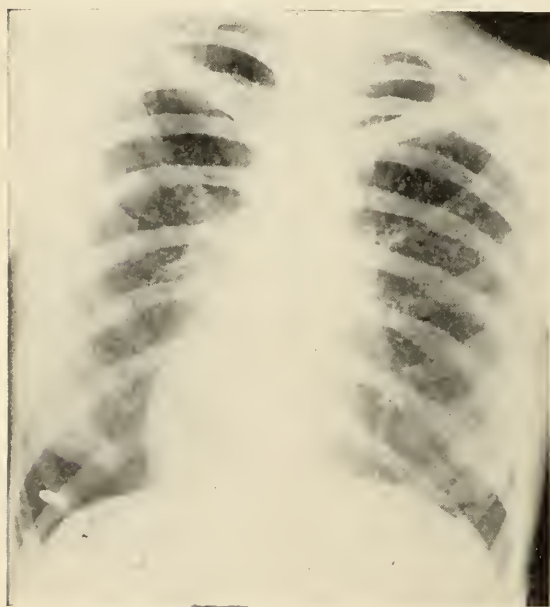


Fig. 3a. Acute military tuberculosis shows radiographically as multitudes of minute infiltrations uniformly distributed throughout both lungs. Often no physical signs can be elicited in such cases. The diagnosis is readily made from X-ray examination.



Fig. 3b. A healed type of military tuberculosis has been encountered in which these lesions become calcified.

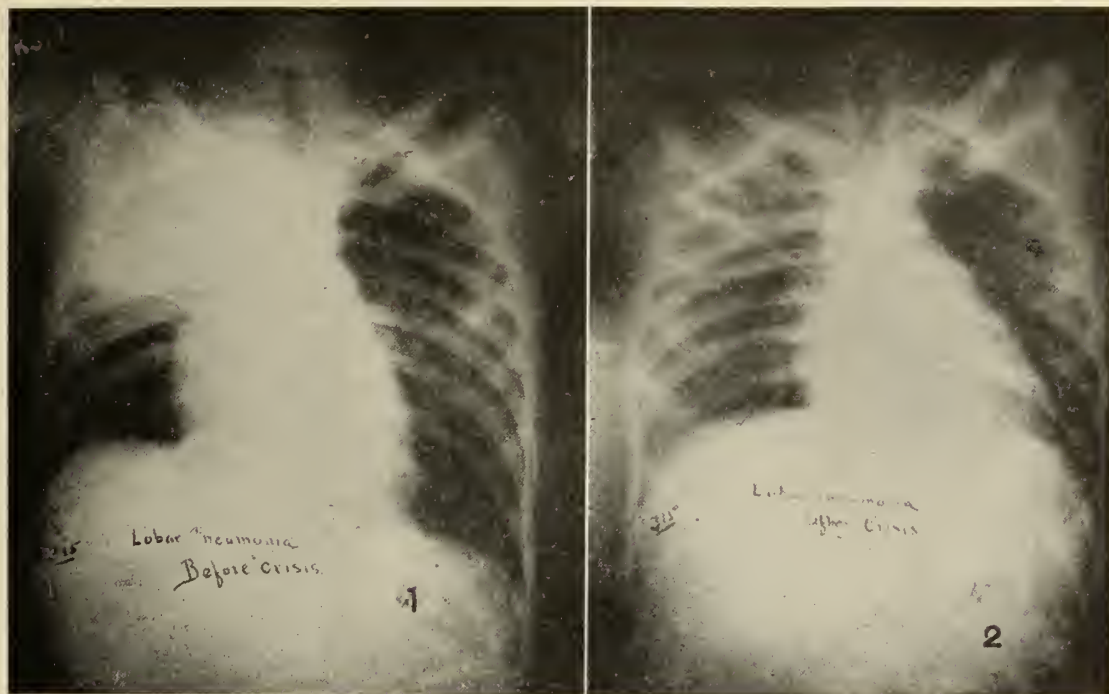


Fig. 4a. Lobar pneumonia in the adult usually causes prompt consolidation of an entire lobe. When in its beginning stage before full lobar consolidation the X-ray will be of great aid in determining the diagnosis.

the disease in subsequent examinations, to detect any extension of the disease or the development of any complications such as lung abscess or empyema. X-ray examination is of greatest value in the diagnosis of atypical cases.

December, January and February are the months in which typical lobar pneumonia is the rule;¹¹ during the other months atypical forms predominate. Partial consolidation of lobes, centrally located, does not reach the periphery and gives no distinctive physical signs. Hilum pneumonia¹² where the consolidation is confined to the hilum region gives no distinctive physical signs and one must rely for its diagnosis upon X-ray examination. The diagnosis of lobar pneumonia in children is often a most difficult matter. Very frequently in children the shadow of the initial consolidation in the radiograph is more pronounced at the periphery, the hilum consolidation being less pronounced. Mason¹³ has shown that when this is the case the physical signs, especially blowing breathing so characteristic of consolidation, are not evident until the consolidation has progressed to make contact with the larger bronchi. The frequency with which appendicitis and lobar pneumonia are confused in children makes an early diagnosis imperative—either to establish the presence of beginning lobar pneumonia in cases pre-

sending appendiceal symptoms or to rule out any possible lung involvement. The X-ray examination will immediately differentiate these conditions. Serial radiographic examinations, or films taken at intervals during the disease, are of great aid in detecting complications. Lobar pneumonia should resolve completely within two weeks after the crisis. If three weeks after the crisis there is not radiographic evidence of progressive favorable resolution, you can be sure that you are dealing with a complication. If the shadow remaining is at the periphery of the lung it is due to pleural effusion, general or local; if the shadow remaining is in the central portion of the lung, the complication is due to lung abscess, whether you can see the abscess cavity or not.

Pleural effusions. Pleural effusion¹⁴ is a frequent complication of lobar pneumonia and, of course, may occur independently in association with a variety of conditions. Generalized pleural effusions are usually readily diagnosed without radiographic assistance, but localized effusions trapped by adhesions between the opposing pleural layers may be very difficult or impossible to diagnose. The X-ray may be of material aid in locating such effusions for surgical intervention. The presence of an associated pneumothorax may so complicate

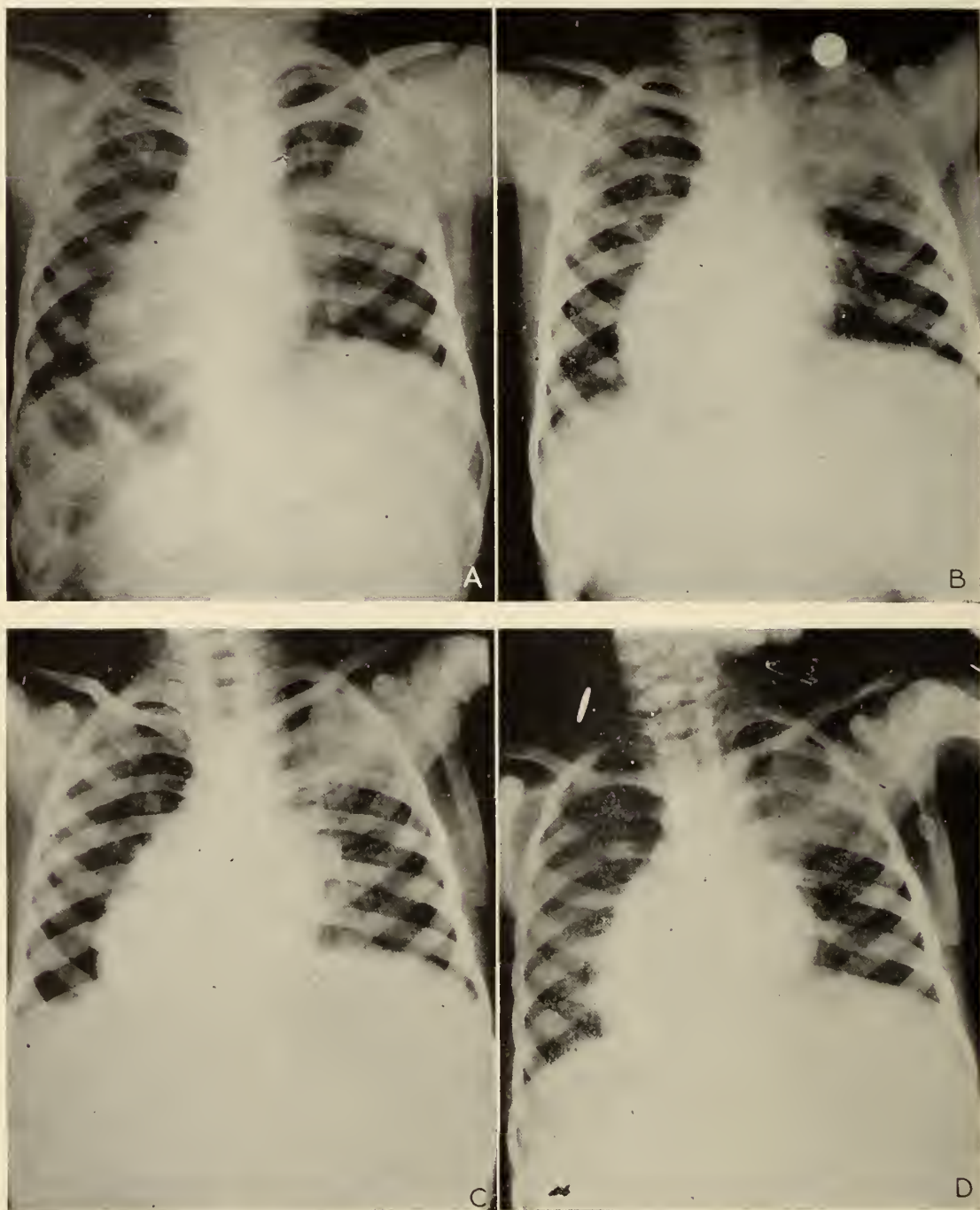


Fig. 4b. In children lobar pneumonia frequently presents the most marked initial consolidation at the periphery. Mason has shown that at this stage the physical signs of pneumonia are lacking yet they are plainly visible in the radiograph.



Fig. 5a. Pleural effusions free in the pleural cavity present a characteristic radiographic picture. Usually such conditions are readily diagnosed from physical signs.

the physical findings that a logical conclusion cannot be reached. Physical signs of pneumothorax may be present where no pneumothorax exists; such an instance occurred in the writer's experience. A large localized spontaneous pneumoperitoneum following rupture of a duodenal ulcer caused physical signs in the chest typical of pneumothorax and the case was so diagnosed by all who examined the patient prior to the radiographic examination.

Abscess of the lung. Abscesses of the lung show two general types of radiographic characteristics.¹⁵ Both presuppose an area



Fig. 5b. Localized pleural effusions, however, will tax the skill of the clinician. Radiographic examination only can be relied upon to give a full knowledge of the condition present.

of actual lung destruction. In the acute abscess the surrounding inflammatory reaction is usually extensive. This indicates a response of the mechanism of bodily defense and an effort to limit the extension of the disease. In an acute abscess, no zone of inflammation is present, this indicates a low bodily resistance against the infection and is a very unfavorable radiographic sign, much the same as a low leucocyte count in the presence of acute infection. Chronic abscesses may have relatively little surrounding inflammation and show relatively smooth walled cavities. The acute



Fig. 6. Lung abscess is usually situated centrally in the lung and is therefore not readily amenable to diagnosis from physical examination. Radiographic examination readily discloses the position and extent of the abscess.

stage of primary lung abscess is often indistinguishable clinically from lobar pneumonia, and radiographic examination will usually determine the diagnosis long before it is suspected clinically. We have been able to diagnose the presence of a lung abscess sixteen days before it was clearly manifested clinically. One of the most important phases of radiographic examination of this disease is to follow its course by films taken at intervals during the disease. If the abscess ruptures into a bronchus and the pus is evacuated, the process usually resolves very rapidly; if the slightest evidence of infection remains there is danger of an acute dissemination and reestablishment of the process. X-ray

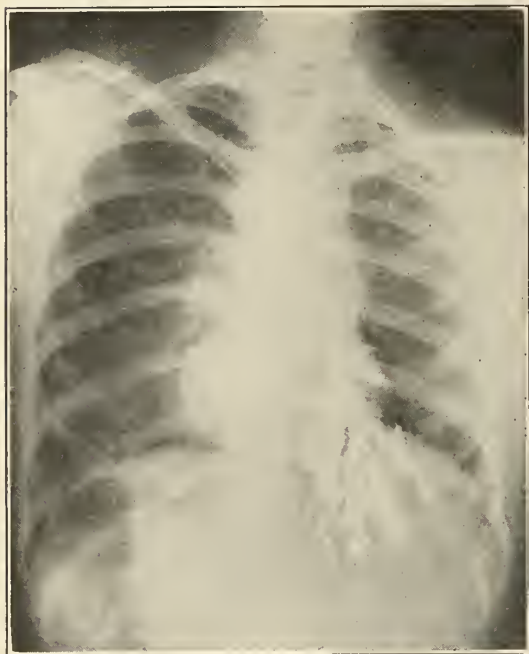


Fig. 7a. Bronchiectasis often cannot be differentiated clinically from chronic bronchitis. Radiographic examination after intratracheal injection of iodized oil will readily show the dilatation of the bronchi characteristic of the condition.

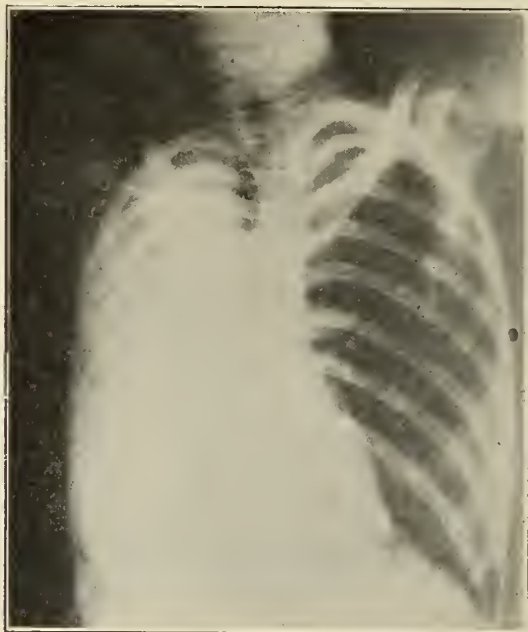


Fig. 8. Chronic interstitial pneumonia cannot be definitely diagnosed from physical signs. Radiographic examination discloses the true nature of the disease.

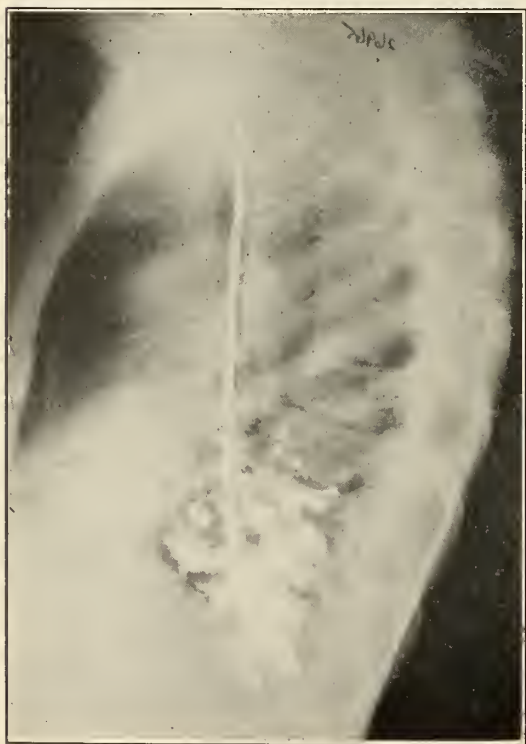


Fig. 7b. Lateral view. (Same as Fig. 7a.)

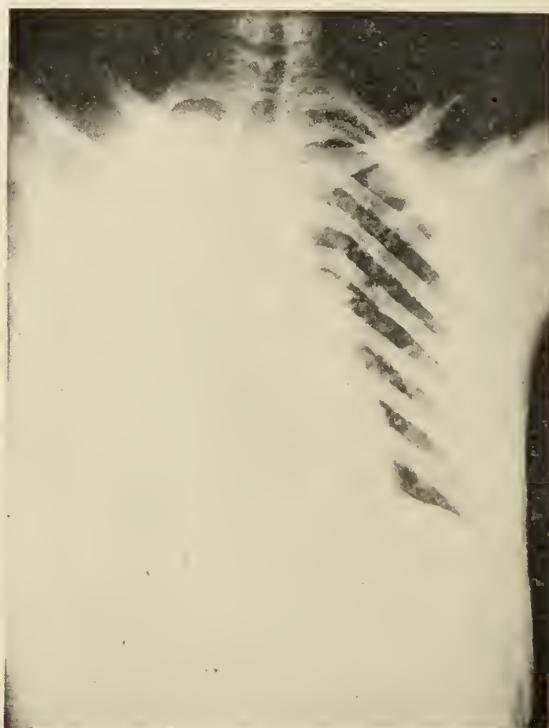


Fig. 9a. Massive atelectatic collapse of the lung is a condition in which previously well aerated lung tissue without apparent cause, such as bronchial obstruction or pleural effusion, loses its air content and collapses. It most frequently follows abdominal operations or some insult to the vagus nerve distribution.

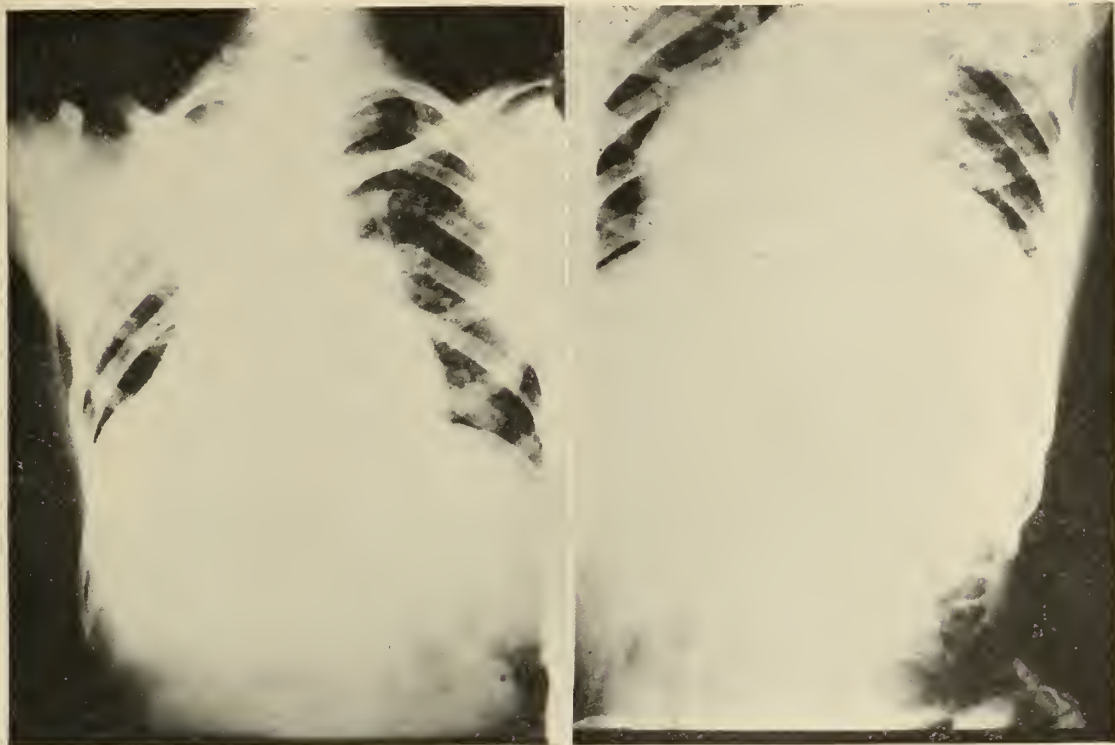


Fig. 9b. Showing re-inflation of the lung a few minutes after rolling the patient over on the uninvolved side and back again. Re-inflation was sudden and in one instance it was noted under the fluoroscope. This procedure is suggested as a therapeutic measure.

examination is the only method by which such a remnant of infection can be detected. If the abscess ruptures into the pleural cavity, this complication can be readily detected radiographically.

Bronchiectasis. When surrounded by inflammatory reaction bronchiectatic cavities may resemble multiple abscess formation. In certain cases the resemblance may be so great that a differentiation is impossible and the condition must be described as chronic lung suppuration. Cases of bronchiectasis sometimes resemble chronic bronchitis and the differential diagnosis can only be made by radiographic examination after intratracheal injection of iodized oil after the manner described by Forestier.¹⁶

Chronic interstitial pneumonia. (Chronic diffuse fibrous. Any extensive chronic lung suppuration where multiple collections of pus are walled off by fibrous tissue deposit, whether the original infection followed pneumonia, lung abscess, or pleurisy, may result in the over production of fibrous tissue and the complete replacement of all lung structure. Such a condition is known as chronic interstitial pneumonia. Radiographically, the picture is quite distinctive.¹⁷ One entire lung is replaced by dense scar tissue which, as a result of its con-

traction, causes a narrowing of the chest cavity, approximation of the intercostal spaces, pulling up of the diaphragm and retraction of the heart and mediastinal structures toward the involved side. The traction of the scar tissue on the bronchial walls results in formation of secondary bronchiectatic cavities. The radiographic examination serves definitely to establish the diagnosis. This is of very great importance since clinically this condition resembles pleural effusion of long standing. Attempted aspiration in the presence of chronic interstitial pneumonia is attendant with great danger. The lung is not resilient and cannot avoid the exploratory needle. At least four instances have come to the writer's attention in which death from hemorrhage followed immediately after attempted aspiration. Aspiration is of no therapeutic or diagnostic value since if one small pocket of pus were entered by the needle no benefit would result while thousands of others remain.

*Massive atelectatic collapse of the lung.*¹⁸ This is a condition which may, on superficial examination, resemble chronic interstitial pneumonia. Usually an entire lung is solidified, one side of the chest cavity is narrowed and the intercostal spaces are

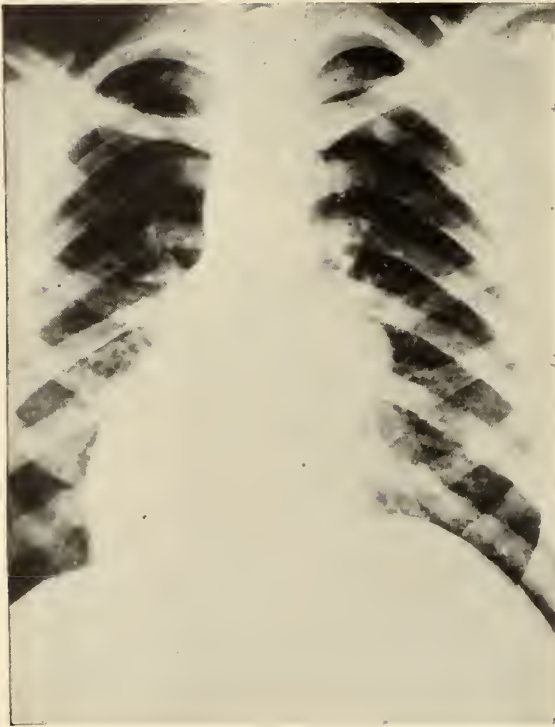


Fig. 9c. After complete reinflation. (Same as Figs. 9a and b.)

more closely approximated on the involved side. The diaphragm is elevated and immobile and the heart and mediastinal structures are pulled over toward the involved side. The only thing lacking in the picture is the multiple cavity formation. This is a peculiar condition of obscure etiology

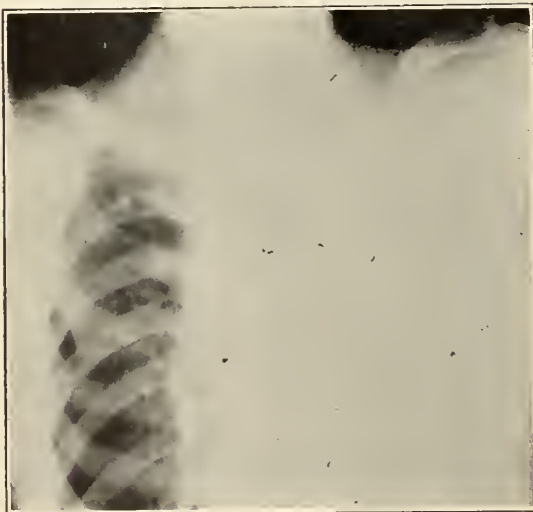


Fig. 10a. Tumors of the lung may become so massive as to suggest fluid. Usually endothelioma in type.

coming on usually immediately following abdominal operation or as a result of some injury to the regions supplied by the vagus nerve. Its cause is unknown, but it seems most probable that a reflex stimulation of the vagus in some way causes a spasmodic collapse of the smaller bronchioles; when once occluded the air in the periphery of the lung is rapidly absorbed by the circulating blood and atelectasis occurs. In three instances which have come under the writer's observation reinflation of the entire lung was established within a very few minutes by merely rolling the patient over on to the sound side and causing him to cough. Reinflation in two instances was observed under direct fluoroscopic vision. The

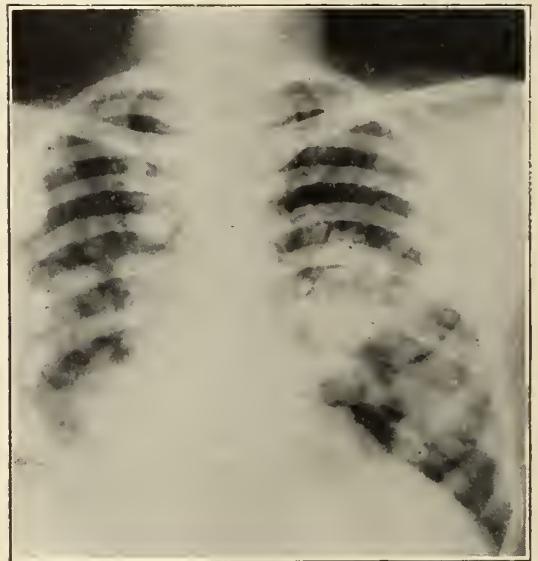


Fig. 10b. Secondary lung malignancy is most readily detected in radiograph. Such lesions often produce no physical signs.

occurrence of the condition most frequently as a postoperative complication and the readily demonstrable displacement of the heart will ordinarily establish the diagnosis without X-ray examination, but where the collapse is confined to a single lobe this characteristic displacement of the heart is not so marked and the diagnosis can only be made with certainty from radiographic examination.

Tumors of the lung. Tumors may attain such size that they completely fill the chest cavity and may clinically under certain circumstances resemble massive pneumonia, extensive effusion or massive atelectatic collapse. The radiographic examination will differentiate these conditions without difficulty. X-ray is of greatest aid in deter-

mining the presence of secondary carcinomatous metastases in the lung. At the start these are often silent, giving no physical indication of their presence.

From a consideration of these few facts it would seem that the diagnosis of any pulmonary lesion is hazardous without supplementary radiographic examination. Most experts in chest diseases have taken cognizance of this fact and many have taken the stand that they will not express an opinion upon chest diagnosis without the aid of radiographic examination. It is undoubtedly true that radiographic examination of chest conditions has done much to advance our knowledge of the mode of onset, course and ultimate termination of many diseases of the lungs, and it seems most probable that as our knowledge increases our proficiency in diagnosis will increase on this helpful method of diagnosis.

City Hospital.

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SPLENIC ENLARGEMENT IN HYPERTHYROIDISM

Splenic enlargement in hyperthyroidism is more frequent than one would be led to believe from its lack of mention in the literature. One hundred and forty-four patients with exophthalmic goiter were studied by C. W. Baldridge and F. R. Peterson, Iowa City (*Journal A. M. A.*, May 28, 1927), within six

months. Of these, forty-four have had palpable spleens. From none of the patients with enlarged spleens were the authors able to obtain a history of malaria or other disease usually associated with splenic enlargement. During the same period, eighty-one cases of adenomatous goiter were observed. Hyperthyroidism was present in forty-two of the eighty-one cases, but in no instances were there the typical manifestations of exophthalmic goiter. Only three patients of this group had palpable spleens. The cause for enlargement of the spleen in exophthalmic goiter is not clear. It does not seem justifiable to account for the splenic enlargement in hyperthyroidism as being due to any specific antagonistic action between the spleen and the thyroid gland. The authors are not inclined to attribute the splenic enlargement in hyperthyroidism to an increase in the destruction of red blood cells. Two possible explanations for the splenomegalia are apparent from the study of these cases: First, that the splenic enlargement is passive and is secondary to cardiac failure or to cirrhosis of the liver, either toxic or cardiac; and, second, that the enlargement of the spleen is an active process with lymphoid hyperplasia and is only a part of a generalized hyperplasia of lymphoid tissue. Of these the latter seems the more plausible. The patients, as a group, have not been followed long enough to warrant a positive statement in regard to decrease in the size of the spleen following operation. In the four of the fatal cases in which necropsy was obtained, the spleen showed marked lymphoid hyperplasia, as did all the other fixed lymphatic tissues. In this series of cases, palpable spleens were found almost exclusively in those patients presenting the clinical features of exophthalmic goiter.

ANEURYSM OF INTERNAL CAROTID ARTERY

Vilhelm Magnus, Oslo, Norway (*Journal A. M. A.*, May 28, 1927), had good results from avulsion of the trigeminal root in a patient, aged 69, who was completely relieved of his pain. The patient's condition was a trigeminal involvement of the right side, besides a paralysis of the sympathetic fibers which innervate the right orbit and an abducens paralysis on the same side. Magnus made the diagnosis of a slowly growing tumor in the trigeminal region, which first compressed the nervus abducens and then the gasserian ganglion. He performed an operation in order to remove the trigeminal root. When the dura mater was detached, the middle meningeal artery was lacerated down on the base of the cranium, and as it was very difficult to ligate so far down, the external carotid artery was ligated on the neck. As the dura mater was detached from the base of the cranium, Magnus came on a tumor about the size of a chestnut with a smooth surface and glistening like mother of pearl, strictly limited and situated on the surface of the gasserian ganglion. During the further attempts at detaching the dura mater from the surface of the tumor in its medial part, a hole was torn and the contents of the tumor poured out; they were yellowish brown, and came out in portions. About half was easily emptied with a spatula; while the rest was being enucleated, a great gush of blood that could not be stopped by tamponade poured out. The internal carotid artery was now ligated, and the bleeding stopped. The contents of the tumor could now be emptied without difficulty and the lateral wall, which was as thin as paper, extirpated. Magnus did not remove the medial wall for fear of injuring the sinus cavernosus. Afterward the trigeminal root was removed.

THE JOURNAL

OF THE

Missouri State Medical Association

JULY, 1927

EDITORIALS

FRANK GOSNEY NIFONG, M.D.

President, Missouri State Medical Association
1927-1928

The Missouri State Medical Association in conferring the honor of presidency upon Dr. Frank Gosney Nifong secured a most capable, efficient and eminent member of the medical profession to fill this high office. He not only discharges his duties with distinction to himself but with credit to the Association.

Dr. Nifong was born in Fredericktown, Missouri, January 19, 1867. His ancestry is pioneer but of so many years back that he is "strictly Missourian and proud of it." His sturdy characteristics are inherited from his great-grandfather, George Nifong, a North Carolina Dutchman, who settled in the village of St. Louis in 1800. Dr. Nifong obtained his education in the common schools, supplemented by academic training in Transylvania University at Lexington, Kentucky. His medical education was received in the Missouri Medical College at St. Louis, now Washington University Medical School, from which he graduated in 1889. He began his practice by serving as junior and senior intern in the St. Louis City Hospital and then entered private practice in St. Louis. From that time he has been in the intensive activities of medical and surgical practice.

Dr. Nifong has proven himself to be both loyal and faithful to the tenets of his profession. Naturally nothing different would be expected from a man with such a commendable line of ancestors. His father, Dr. William Nifong, practiced medicine for more than fifty years in Fredericktown and was prominent in the affairs of our Association.

In 1905, Dr. Nifong moved from St. Louis to Columbia, Missouri, which city he has made his home. He married Miss Lavinia Lenoir, daughter of a pioneer family of Columbia, Missouri. Before leaving St. Louis he served as teacher of anatomy in the Missouri Medical College for several years and later became assistant surgeon in the St. Louis Mullanphy Hospital. After moving to Columbia he became associated with Dr. A. W. McAlester,

Dean of the Medical Department of Missouri University, and shared that great leader's activities in an effort to enlarge and increase the efficiency of the medical department of that institution. During the three years spent in the University he also had charge of clinical surgery in the medical department of the school.

Since establishing his home in Columbia Dr. Nifong has limited his activities to the practice of surgery. He is intensely interested in the larger and better development of university medical education for Missourians, believing it is the duty of the state to foster this art as much as law, engineering or agriculture and that the benefits derived are more valuable than from any other professional school.

Due to his broad vision and open-mindedness he has realized the urgent needs of the rural sections and is actively concerned in establishing rural community and county hospitals. He realizes the needs of the country communities in this respect because there is a great lack of efficient hospital service as compared with that of the city. Dr. Nifong was an ardent promoter of the county general hospital law making it possible for the counties of the state to vote bonds for hospitals and their maintenance. He has contributed a number of papers during the last twenty years to the various county, state and district medical societies to which he belongs, also to the American Medical Association. These have been principally on surgical subjects.

During the World War in 1918 he published a monograph entitled "The Hodgen Wire Cradle Extension Suspension Splint," with the hope that it would make for a better understanding in treating war wounds and fractures of the lower extremities. The device of Dr. John Thompson Hodgen, the famous St. Louis surgeon during the Civil War, was exemplified in this book with other helpful appliances. It is a satisfaction to know that all the war work in this special field was efficient insofar as it applied to the principles laid down by this pioneer surgeon.

Upon more than one occasion Dr. Nifong has declined honors which might have been his in other fields and he has never accepted public office and never wishes to hold one. Instead, he is intensely concerned with everything that is for the good of Missouri and the nation, especially those things that make for a better education. He is particularly proud of being a Missourian and true to the soil.

Dr. Nifong belongs to the various branches of the Masonic fraternity while along strictly professional lines he is a Fellow of the American Medical Association, the Western Surgical Association and the American College of Surgeons.



FRANK GOSNEY NIFONG, M.D.
COLUMBIA
PRESIDENT 1927-1928

FRANK ISAAC RIDGE, M.D.

President-Elect, Missouri State Medical Association 1927-1928

With the adoption of the new constitution and by-laws at the Sedalia session a new office was created in the official family, namely, a president-elect, and the more or less honorary positions of five vice presidents were abolished. The office of president-elect has not been established for the purpose of providing an exalted position for some member whom we wish to honor but from whom we expect little more than sitting pretty and looking dignified. He has a real job on his hands. He is a member of the House of Delegates and of the Council and is expected to aid the president in every way toward maintaining the activities of the organization.

In the election of Dr. Frank Isaac Ridge, Kansas City, to be the first President-Elect of our Association the House of Delegates has chosen a member who is both worthy and deserving of this high distinction. Dr. Ridge is in every way well qualified to discharge the duties of this important office because of his well trained scientific mind, his broad experience in medical practice and his activities in medical organization.

Dr. Ridge was born in Kansas City, Missouri September 17, 1885, where he was educated in the public schools and graduated from the Central High School. He then attended the University of Missouri of which he is an alumnus and received his medical degree from the Columbia University, New York City, in 1910. For the next two years he served as intern and resident physician at the Bellevue Hospital, New York, and then studied in Europe at the University of Munich.

There are many qualifications that tend to make Dr. Ridge a successful man in the medical world. His family have been residents in the county in which he was born (Jackson County) since 1837. To his grandfather belongs the honor and distinction of being the first city physician in Kansas City. He has a broad vision, an appreciation of progress and an interest in all movements looking toward the advancement of the science of medicine. For six years he served on the board of censors of the Jackson County Medical Society and three years on the Committee on Scientific Work of the Missouri State Medical Association. He has also served as secretary of the Kansas City Academy of Medicine and as a vice president of the Missouri State Medical Association.

Quite an outstanding period in the life of Dr. Ridge is that time spent in the service of our country during the World War. He served

from April, 1917, to March, 1920, in the United States Navy as Senior Lieutenant Brigade Surgeon in charge of the incoming and outgoing detention camps at the Great Lakes Training Station Naval Hospital, Ninth, Tenth and Eleventh Districts. Also he was, for a short time, on detached duty.

Dr. Ridge is well liked by his many friends and medical associates as evidenced by the many obligations that have been placed upon him. He has served on the staff of St. Joseph's Hospital, St. Mary's Hospital, Swope Settlement House and as consultant in the Kansas City General Hospital. He was also instructor in physical diagnosis at the University of Kansas for one year. He is a Fellow of the American Medical Association and the American College of Physicians, and a member of the Southern Medical Association, the Kansas City Academy of Medicine, the Southwestern Clinical Association and the Kansas City Internists Club.

STATE HOSPITAL FOR CRIPPLED CHILDREN OPENED FOR PATIENTS

On July 11, the State Hospital at Columbia will begin receiving crippled children for treatment under the law passed at the last session of the legislature. It is important for the members of county medical societies to know the method of procedure in committing children to the hospital because the authority to commit the child cannot be issued until after a physician has examined the child and declared its deformity of such nature that it can probably be cured or alleviated by treatment at the hospital.

The law provides that the county court shall appoint a physician to examine the child and make a written report to the court of the condition found and state whether, in his opinion, the condition can probably be relieved and that the parents or guardians of the child are unable to provide means for its treatment. The age limit for children entitled to this service is 15 years. After the physician's certificate has been filed with the court and all other information required is before it, the court will fix a day for a hearing to which the parents or guardians will be summoned. If the court finds that all these preliminaries have been fulfilled to the satisfaction of the law it will order the child transported to the State Hospital at Columbia.

For the examination of the child and execution of the certificate to be filed with the county court the physician is allowed a fee of \$5.00 which is paid by the county court. The court may designate some one to accompany the child



FRANK ISAAC RIDGE, M.D.
KANSAS CITY
PRESIDENT-ELECT 1927-1928



to the hospital, the actual necessary expenses incurred in making the trip being paid out of the funds of the county treasury.

Dr. Frederick A. Jostes, St. Louis, has been appointed full time director of the new service for crippled children at the State University Hospital. Dr. Jostes is well qualified to undertake this important labor for he is at present on the orthopedic staff of the Washington University Medical School and was formerly on the staff of the Shriners Hospital for Crippled Children at St. Louis. He graduated from Washington University Medical School in 1920 and has spent a number of years in post-graduate work in this country and the orthopedic clinics of foreign countries.

Dr. Guy L. Noyes, Dean of the Medical School of the State University, desires all our members to be informed of the facilities and the service the State Hospital for Crippled Children can offer and will welcome letters of inquiry if there are any questions in connection with the care and treatment of the child that they desire to have answered.

The legislature appropriated \$35,000 toward the expense of caring for crippled children at the hospital during the next 18 months and of course the curators must adjust their expenses to stay within this sum. It is very likely the number of children seeking admission will be greater than can be cared for on such an amount but it will serve to demonstrate to the people of the state the opportunity they have for, literally, "putting these crippled children on their feet." The marvelous accomplishments of present day surgery in correcting malformations of children seem miraculous. The appeal is irresistible to do something for these unfortunate children and undoubtedly donations of substantial sums will be given to the curators by private citizens to enlarge the facilities of the State Hospital for Crippled Children beyond the possibilities provided in the small sum appropriated by the legislature.

Already this appeal has prompted the donation of an unannounced sum of money to establish a dental clinic for the crippled children at the State Hospital. Mr. J. Dozier Stone, a Columbia capitalist, has informed the Board of Curators that he will provide the money for the establishment of a memorial dental clinic to be dedicated to the memory of his mother and father. It is known that one of the state senators, whose interest in the establishment of the State Hospital for Crippled Children was one of his principal activities during the last session of the legislature, has declared that he will devise his entire estate to the State Hospital for Crippled Children.

COMMITTEE APPOINTMENTS UNDER THE NEW CONSTITUTION AND BY-LAWS

At the meeting of the Executive Committee held in St. Louis on June 15, President Nifong submitted the following appointments for committees all of which were approved by the Executive Committee:

Scientific Work—E. J. Goodwin, St. Louis, Chairman (term expires, 1930); Robert F. Hyland, St. Louis (term expires, 1929); J. E. Stowers, Kansas City (term expires, 1928).

Public Policy—H. E. Pearce, Kansas City, Chairman (term expires, 1930); W. L. Allee, Eldon (term expires, 1929); Robert Vinyard, St. Louis (term expires, 1928).

Defense—Charles E. Hyndman, St. Louis, Chairman (term expires, 1930); M. L. Klinefelter, St. Louis (term expires, 1929); O. B. Zeinert, St. Louis (term expires, 1928).

Medical Education and Hospitals—Ross A. Woolsey, St. Louis, Chairman (term expires, 1930); W. H. Breuer, St. James (term expires, 1929); Harold P. Kuhn, Kansas City (term expires, 1928).

Postgraduate Course—Ralph L. Thompson, St. Louis, Chairman (term expires, 1930); C. B. Francisco, Kansas City (term expires, 1929); Guy L. Noyes, Columbia (term expires, 1928).

Publication—T. W. Cotton, Van Buren, Chairman (term expires, 1930); Clyde O. Donaldson, Kansas City (term expires, 1929); M. A. Bliss, St. Louis (term expires, 1928).

Medical Economics—Joseph W. Love, Springfield, Chairman (term expires, 1930); R. B. H. Gradwohl, St. Louis (term expires, 1929); O. S. Gilliland, Kansas City (term expires, 1928).

Revision of Constitution and By-Laws—M. P. Overholser, Harrisonville, Chairman (term expires, 1930); Roland S. Kieffer, St. Louis (term expires, 1929); W. K. Trimble, Kansas City (term expires, 1928).

THE POSTGRADUATE ASSEMBLY AT KANSAS CITY

The Annual Assembly of the Inter-State Postgraduate Medical Association of North America, will be held at Kansas City, Missouri, October 14 to 21 inclusive, 1927. The Annual Clinic Week of the Kansas City Southwest Clinical Society will be merged into the Assembly program and will constitute the pre-assembly clinic features of the program. On the 14th and 15th of October there will be held in the hospitals of Greater Kansas City operative and diagnostic clinics by men of the local profession. These clinics in the past have been unusually well conducted and have constituted

one of the outstanding clinical programs in the Southwest.

The program of the Inter-State Assembly will begin at the usual early hour of seven o'clock Monday morning, October 17, and will consist of diagnostic clinics and didactic presentations by the most renowned clinicians and teachers of America and Europe; they will continue until late Friday afternoon, October 21. Dr. George W. Crile, Chairman of the Program Committee, has prepared an unusually attractive and helpful program.

All sessions of the Assembly will be held in the magnificent new Ararat Shrine Temple building. The largest scientific and technical exhibit in the history of the Assembly will form an important feature and almost one hundred individual firms will be represented in the exhibit halls; the entire exhibit will be housed in the Ararat Shrine Temple.

A detailed program with full information covering the Assembly, will be prepared and mailed to all medical men in good standing throughout the United States and Canada. This program will be mailed sufficiently early to enable all to make reservations at Kansas City.

All first class hotels in Kansas City will co-operate and will provide ample accommodations for medical men of the country. The Hotel Muehlebach has been designated the Headquarters Hotel and all reservations for accommodations at the Headquarters Hotel or any other hotel are to be made through the manager of the Convention Bureau of the Chamber of Commerce of Kansas City, Missouri.

Reduced railroad rates on the certificate plan have been granted by all railroads in the United States and Canada. All local medical organizations, including the Jackson County Medical Society, the Wyandotte County Medical Society (Kansas), The Kansas City Academy of Medicine, The Kansas City Clinical Society and the Kansas City Southwest Clinical Society, will act as hosts to our Association. Dr. E. H. Skinner, of Kansas City, is the General Chairman for local committees and he has gathered about him, an exceedingly active and progressive group of medical men to assist in the conduct of what should prove to be one of the greatest medical assemblies ever held.

NEWS NOTES

Dr. Elmer T. McGaugh, Richmond, was appointed Superintendent of State Hospital No. 1, at Fulton, April 21, to succeed Dr. M. O. Biggs. Dr. McGaugh is also a member of the State Board of Health.

Dr. Max Goldstein, St. Louis, was elected president of the American Otological Society.

Dr. F. B. Fuson, Nevada, was appointed Health Supervisor on April 21 to succeed Dr. Geo. A. Johns.

Dr. Jabez N. Jackson, Kansas City, President of the American Medical Association, was honored by the University of Missouri at the commencement exercises, June 8, when the University conferred upon him the honorary degree of Doctor of Laws.

Dr. William Engelbach, St. Louis, was honored by his Alma Mater, the Illinois College at Jacksonville, Illinois, when the college conferred upon him the honorary degree of Doctor of Science, June 8.

Dr. Francis M. Pottenger, of Monrovia, California, international authority on tuberculosis, was a guest of the Trudeau Club, St. Louis, May 31. He conducted several clinics during his visit and addressed the St. Louis Medical Society on "The Evolution of Early Tuberculosis and Its Recognition," May 31. A dinner was given in his honor by the Trudeau Club at the Coronado Hotel.

On June 6 the St. Louis University celebrated the laying of the corner stone of its new medical building which, when completed, will represent an investment of over \$600,000. The new building will be five stories in height and form the nucleus of a two million dollar group to include a school of dentistry, a school of nursing and a hospital. The building will be completed in time for the opening of the session of the school next fall.

Dr. Evarts A. Graham, St. Louis, and his associates were honored by the St. Louis Medical Society at its meeting on June 7, for discovering a method of visualization of the gallbladder by the X-ray. A gold medal was awarded Dr. Graham and certificates of merit were awarded to his associates, Drs. Glover H. Copher, Warren H. Cole and Sherwood Moore. Dr. Graham was the recipient of an additional honor on June 9 when Central College at Fayette, Mo., conferred upon him the honorary degree of Doctor of Laws.

At the meeting of the American Medical Association held in Washington, May 16-20, the following Missouri Fellows were elected officers of sections: Dr. Hugh McCulloch, St. Louis, Chairman of the Section on Diseases of Children; Dr. H. R. Wahl, Kansas City, Chairman of the Section on Pathology and Physi-

ology; Dr. Archer O'Reilly, St. Louis, Chairman of the Section on Orthopedic Surgery; Dr. E. H. Skinner, Kansas City, Chairman of the Section on Radiology. Dr. Evarts A. Graham, St. Louis, was elected a delegate from the Section on Surgery.

The members of our Association may have received circulars in the past month or two emanating from the Mayflower Publishing Company offering to publish a biographical sketch in the "Who's Who in the Central States." The A. N. Marquis Company, publishers of "Who's Who in America," have just issued a circular stating that they are in no way connected with the Mayflower Publishing Company and not interested in the proposed "Who's Who in the Central States." If any members have submitted data for "Who's Who in the Central States" in the belief that it is sponsored by the publishers of "Who's Who in America," it was done under a mistaken impression of such connection. Before subscribing for a copy of "Who's Who in the Central States" or otherwise obligating yourselves to pay money for the book it would be well to learn the financial standing of the Mayflower Publishing Company.

An elaborate program was a feature of the dedication of the Montgomery Ward Memorial Building of the Northwestern University Medical School, Chicago, June 15, 16 and 17. Dr. Hugh T. Patrick, Chicago, delivered the address of dedication in the John B. Murphy Memorial Building on the evening of June 16. Alumni clinics were held on the morning of each of the three days and scientific papers were read at the succeeding sessions. Among those who read papers was Dr. S. W. Ranson, St. Louis, who gave an address on "Muscle Tonus, Hypertonus and Contracture." Portraits of the following were unveiled on the afternoon of June 15: Dr. N. S. Davis, founder, unveiled by Dr. N. S. Davis, III; Dr. John H. Hollister, founder, unveiled by his daughter, Mrs. Franklin H. Martin; Dr. William H. Byford, founder, unveiled by Dr. Henry T. Byford; Dr. Ralph Isham, founder, unveiled by his grandson, Ralph Nelson Isham; Dr. David H. Rutter, founder, unveiled by his granddaughter, Miss Emma Turnley; Dr. John H. Long, unveiled by Dr. Frederick Robert Zeit; Dr. Frank Billings, unveiled by Dr. Robert Bruce Preble; Dr. Franklin H. Martin, unveiled by Dr. Allen B. Kanavel; Dr. Robert Laughlin Rea, unveiled by Dr. Archibald Church; Dr. Emilius Clark Dudley, unveiled by Mr. Karlton Hackett; Dr. Otto L. Schmidt, unveiled by Mr. Lessing Rosenthal.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1927

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Camden County Medical Society, December 31, 1926.
Holt County Medical Society, January 21, 1927.
Iron County Medical Society, March 4, 1927.
Madison County Medical Society, March 9, 1927.
Dent County Medical Society, April 2, 1927.
Ralls County Medical Society, April 4, 1927.
Platte County Medical Society, April 7, 1927.
Atchison County Medical Society, April 9, 1927.
Chariton County Medical Society, April 15, 1927.
Montgomery County Medical Society, May 7, 1927.

MISSOURI STATE MEDICAL ASSOCIATION

Seventieth Annual Session, Sedalia

May 2, 3, 4, 5, 1927

MINUTES OF THE HOUSE OF DELEGATES MEETING

Assembly Room Auditorium, Court House
Monday, May 2, 1927—Morning Session

The first meeting of the House of Delegates of the Seventieth Annual Meeting of the Missouri State Medical Association, was called to order Monday, May 2, in the Assembly Room of the Court House, Sedalia, Missouri, at 9:35 a. m., the President, Dr. William H. Breuer, St. James, presiding.

At roll call seventy seven delegates responded as follows:

Officers

President.....William H. Breuer, St. James
Vice President...R. A. Woolsey, St. Louis
Secretary-Editor..E. J. Goodwin, St. Louis
Treasurer.....G. W. Hawkins, Salisbury

Councilors

1st District.....Austin McMichael, Rockport
2nd District.....A. S. Conrad, St. Joseph
4th District.....Geo. M. Bristow, Princeton
7th District.....T. J. Downing, New London
9th District.....R. McComas, Sturgeon
10th District.....D. A. Barnhart, Huntsville
11th District.....J. H. Timberman, Chillicothe
12th District.....Spence Redman, Platte City
13th District.....Geo. E. Bellows, Kansas City
14th District.....C. T. Ryland, Lexington
15th District.....L. J. Schofield, Warrensburg
16th District.....T. B. M. Craig, Nevada
17th District.....Guy Titsworth, Sedalia
18th District.....W. L. Allee, Eldon
19th District.....A. A. Clark, Jefferson City
20th District.....A. C. Gayler, St. Louis
24th District.....T. W. Cotton, Van Buren
26th District.....J. A. McComb, Lebanon
27th District.....J. C. B. Davis, Willow Springs
28th District.....F. O. Klingner, Springfield

Delegates

COUNTY	DELEGATES
Barry.....	Wm. M. West, Monett
Bates.....	A. B. Freeman, Rockville
Buchanan.....	J. F. Owens, St. Joseph
Buchanan.....	C. A. Good, St. Joseph
Caldwell.....	G. S. Dowell, Braymer
Cass.....	W. L. Veirs, Pleasant Hill
Chariton.....	Ralph M. Fellows, Salisbury
Christian.....	R. R. Farthing, Ozark
Clay.....	J. R. Woods, Smithville
Cole.....	E. E. Mansur, Jefferson City
Cooper.....	T. C. Beckett, Boonville
Greene.....	Jos. W. Love, Springfield
Henry.....	R. D. Haire, Clinton
Holt.....	O. C. Gebhart, Forest City
Howard.....	V. Q. Bonham, Fayette
Howell-Oregon...	P. D. Gum, West Plains
Jackson.....	William A. Shelton, Kansas City
Jackson.....	Frederick C. Rumsey, Kansas City
Jackson.....	Morris B. Simpson, Kansas City
Jackson.....	Edward L. Stewart, Kansas City
Jackson.....	Tom Twyman, Kansas City
Jackson.....	James E. Stowers, Kansas City
Jackson.....	Hermon S. Major, Kansas City
Jackson.....	John L. Robinson, Kansas City
Jackson.....	Elmer P. Monahan, Kansas City
Jackson.....	O. Jason Dixon, Kansas City
Jasper.....	L. C. Chenoweth, Joplin
Jefferson.....	N. W. Jarvis, Festus
Laclede.....	J. W. Lindsay, Conway
Lawrence-Stone...	H. L. Kerr, Crane
Mercer.....	J. M. Perry, Princeton
Miller.....	G. D. Walker, Eldon
Mississippi.....	A. H. Marshall, Charleston
Moniteau.....	J. B. Norman, Tipton
Nodaway.....	H. S. Dowell, Maryville
Pettis.....	A. J. Campbell, Sedalia
Platte.....	H. M. Clark, Platte City
Ralls.....	T. J. Downing, New London
Randolph.....	R. D. Streetor, Moberly
St. Louis City....	Harry M. Moore, St. Louis
St. Louis City....	Francis Reder, St. Louis
St. Louis City....	Victor B. Kieffer, St. Louis
St. Louis City....	H. McClure Young, St. Louis
St. Louis City....	Wm. D. Black, St. Louis
St. Louis City....	Chas. A. Vosburgh, St. Louis
St. Louis City....	Cyrus E. Burford, St. Louis
St. Louis City....	Wm. T. Coughlin, St. Louis
St. Louis City....	Wm. E. Leighton, St. Louis
St. Louis City....	M. B. Clopton, St. Louis
St. Louis County..	Otto W. Koch, Clayton
Saline.....	F. A. Howard, Slater
Taney.....	Guy B. Mitchell, Branson
Vernon-Cedar....	J. W. Dawson, Eldorado Springs

On motion by Dr. G. W. Hawkins, Salisbury, seconded by Dr. T. B. M. Craig, Nevada, it was voted that the reading of the minutes of the last meeting be dispensed with and adopted as published in *THE JOURNAL*. Carried.

The President, Dr. W. H. Breuer, St. James, delivered his message and recommendations as follows:

President's Message and Recommendations

To the Members of the House of Delegates:

One year ago you elected me President of this Association and placed in my hands the direction of the Association. I must now render unto you an account of my stewardship. How well I have performed that duty remains for you to say. No man was ever elected to that office who appreciated the honor more than I did at that time, and as the days rolled by I was reminded of the great responsibility and sacredness of the trust you had placed in my keeping, but with a determination to do my best, and with the help of

every officer and committee of your Association we went to work.

Dr. H. E. Pearse called a meeting of the Health and Public Instruction Committee and we formulated our legislative work. The Judicial Council was called in special session and the proposed bills and amendments were submitted to them, and were approved, after which we conducted our campaign of education over the entire state. Dr. Pearse will give you the details in his report.

By your direction and authority, the Executive Committee employed a firm of certified public accountants and had the books of the Association audited and the report of the auditors published in *THE JOURNAL* so every member could become familiar with the financial affairs of the Association.

The Executive Committee established a budget system for all its finances which worked out very admirably and placed the affairs of its Association on a business basis, and today we have more money in our treasury than at any time in the past few years. The details of this will be given you by Dr. A. R. McComas, Sturgeon, Chairman of the Council, in his report.

At the meeting in St. Louis a model constitution and by-laws, as recommended by the American Medical Association, was submitted for consideration and referred to the Committee on Revision of the Constitution and By-Laws. Dr. M. P. Overholser, Harrisonville, Chairman of that Committee, called a meeting in conjunction with the Executive Committee of the Council, which met in St. Louis, and the entire draft was gone over, section by section, very carefully considered and approved with a few minor changes made to conform with our particular needs. I have studied this draft very carefully and I believe it is just what we need. It places us on a uniform basis with other state associations, establishes a budget system of our finances and correlates in a systematic manner all the activities of our Association. Your Committee has given this document much time and earnest thought and I earnestly plead with you for its adoption.

Within the last few weeks a great disaster has overcome the people of our state and of our sister states along the great Mississippi River and its tributaries, causing great loss of life and property and endangering the health of the entire Middle West. This danger is of such magnitude and importance that Dr. Redden, National Medical Director of the Red Cross, called a meeting of the heads of all the state medical associations, state health boards of the states interested and the American Medical Association to meet in conference with the U. S. Public Health Service and the American Red Cross, at Memphis, Tennessee, on Thursday, April 28. I received my message too late to get there on time so I asked Dr. Vosburgh, President of the St. Louis Medical Society, to represent me there which he kindly consented to do, and I am going to ask him at the proper time to give you an account of this conference.

Gentlemen, I feel that I would be derelict in my duty and unfaithful to my trust if I failed to express my appreciation of the help that has been rendered to me by a few men connected with the Missouri State Medical Association. I have had the most loyal support, so far as I know, of every member of the Association during the past year, and it is with a great deal of personal gratification that I come before you this morning with the affairs of the Association and the general feeling in this organization as bright as the sun outside in Sedalia today. This has been due to the earnest efforts of several men who are unselfish in their devotion to the cause of organized medicine in Missouri, and while all these men have done great work and have labored earnestly for the upbuilding of the cause of the profession in this state and have tried to raise it above the bickerings and jealousies that have existed sometimes in the past, yet there are a few men who stand out.

I do not believe that we should keep our flowers until the boys are gone. I, for one, feel that I should like to say a word of appreciation for those men here this morning. I want to say to you, my friends, that my friend, Dr. Pearse, of Kansas City, Chairman of the Committee on Health and Public Instruction, has labored earnestly in season and out of season, has worked hard, has spent his time, his money, and his energies, in order to further the cause of medical legislation in this state, to the extent that during the last session of the Missouri legislature we were able to see our legislative program go over 100 per cent, due to the earnest efforts of Dr. H. E. Pearse.

To my friend, Dr. A. R. McComas, of Sturgeon, who as Chairman of the Council and the Executive Committee of this Association, has worked hard and earnestly, has been on the job always, ready at any time at a moment's call to drop his business and do anything that he could unselfishly for the good of the medical profession in this state, I owe my deepest appreciation. And, gentlemen, it has not been because he has been looking for something; he has had all the honors that this Association can give him. It has been because of the unselfishness of his heart and the earnestness that he feels toward medicine in Missouri.

To my friend, Dr. Emmett P. North, of St. Louis, who has been ready from the time that I was elected President of this Association down to the last minute this morning, under all circumstances, to give to me his advice, his time, his

energy to help and to further the cause of organized medicine in Missouri, go my greatest thanks.

And to my friend, Dr. Goodwin, who labors hard and earnestly, who is giving his very life to the medical profession of this state, gentlemen, we all owe our gratitude. I want to say to you this morning that it is the efforts of these men (and I am not speaking personally, I am not lauding these men because of personalities, but I am speaking impersonally) and other men who help them along that enables us to stand out as an organization today with power and influence before the people of this state.

Recommendations

I have very few recommendations to make to this body as a legislative body.

First, I most earnestly recommend the adoption of the Constitution and By-laws as submitted by your Committee.

Second, I recommend the creating of a relief committee, or whatever you wish to call it, with power and authority to classify the entire medical profession of this state in order to prepare them for service for relief duty in a time of emergency and great disaster such as has overtaken us at this time.

Third, I recommend the continuation of the Post Graduate Course, with a meeting to be held in every Councilor District in this state each year. This work has been carried on very successfully the past two years, scattered over the state, and with a large amount of benefit accruing to the medical profession in the various districts.

Conclusion

I do not believe there is any class of men or individuals more afflicted with a jealous spirit, with little petty jealousies, with professional jealousies, than the medical profession. I believe the reason for that is because we do not associate with each other enough, we do not get close enough acquainted, we do not get together, we do not understand and we do not know each other. I find that this organization and this post graduate work and this meeting together throughout the various districts, bringing us in contact with each other, letting us learn to know each other better, has caused us to practice more toleration and is teaching us to give to the other fellow some of the rights that we have been in the habit of taking unto ourselves. I believe that has done more to cement the good will and create the influence that we now are able to wield before the laity of this state than any other one thing that has been done. I earnestly ask that that be continued. It is not only good for us socially, but it is good for us in a professional way.

Gentlemen, I thank you.

I will now ask Dr. Vosburgh, President of the St. Louis Medical Society, to give you a report of the conference which was held at Memphis, because I want that to go in as supplementary report to my message to this body.

Report of Conference on Flood Relief

DR. CHARLES A. VOSBURGH, St. Louis: I had the honor of representing our President at the conference of which he has just spoken. The reason for calling the conference was that as soon as some of those skilled individuals of the American Red Cross got on the ground they immediately saw that the organizations which were attempting to care for the situation were woefully inadequate. So, Dr. Redden, who is one of the Field Directors of the Red Cross, immediately called the presidents of the state medical associations in the affected states, Illinois, Missouri, Arkansas, Tennessee, Mississippi, and Louisiana, together with representatives of the state health departments and the sanitary engineers, and also the American Medical Association which was represented by Dr. William Allen Pusey, of Chicago, into a meeting, at which there were also Dr. McMillan, second in command of the U. S. Public Health Service, Dr. Baker who is Field Director of the Relief for the American Red Cross, and some representation from the Army, including Col. Jones who has been recently relieved from the Florida disaster to serve here, and several corps area representatives.

As soon as this conference was called by these individuals who were intimately connected with and familiar with the local conditions, it was evident that the thing was even then much greater than had been thought before the conference was called.

Insofar as statistics were available, it was evident that more than 175,000 people at the time of this conference on April 28 were homeless and destitute. These people had been concentrated in many concentration areas.

While in the conference one of the men from Arkansas got some data from one of the camps near Memphis. He had telephonic communication with the camp and the commander of the camp told him that at that time there were 10,976 individuals in that camp, and they were continually arriving. There were several camps that had more than 10,000 individuals. The local organizations have supplied simply food and shelter. It was not possible to do anything else. The rapid ingress into these camps made it almost impossible even to establish the camps.

The president of the Tennessee Medical Society told me that in the establishment of the refugee camp at Memphis, it had to be done while four inches of rain was falling in twenty-four hours. You who have had experience in establishing emergency camps in four inches of rain know what they were up against.

The refugees who come into these camps are men, women, children and little babies. One of the doctors said that on the previous day seven children had been born out on the ridge in the tents. You can immediately see, as medical men, the problems which arise under circumstances of that kind.

It is understood that sufficient biologicals are available for immunization. They are going to immunize everybody against typhoid, they are going to vaccinate everybody, they are trying to supply satisfactory drinking water. The health department of Mississippi reported that eight of their major river cities had their waterworks entirely destroyed and that thirty five of their smaller towns had their waterworks entirely destroyed, so that now those people who are living on the surface water and surface wells have their wells full of drainage from the Mississippi River. We know what will happen under conditions of that kind.

Since this conference I have been informed that there have been additional levee breaks in which seventy five thousand more people are being added to this army of refugees.

I took the privilege to say, in representing Dr. Breuer, that the Missouri State Medical Association would meet any reasonable emergency. We have always done that and we always will do that. Fortunately for Missouri, we had only 8,000 refugees in our own state. We have ample financial facilities to care for those and we have a trained personnel. But you would have felt as I felt, I am sure, if you could have heard the president of the state board of Arkansas admit before that congregation of gentlemen that the great state of Arkansas was practically penniless, that they had not sufficient funds to care for emergencies of this kind. Remember that Arkansas had 94,000 refugees, and that number is being augmented day by day. This man said that from his personal friendship with the governor of Arkansas he had induced him to put over some kind of emergency warrant whereby he could have available \$25,000 for buying milk for the babies and doing some immediate things which would relieve partially the suffering of these refugees.

It is a serious situation. It is the opinion of these gentlemen who are experienced in handling such situations that no similar calamity has happened in America in recent years. Undoubtedly, while we are talking this morning there are 300,000 refugees in the Mississippi Basin. You know their problems. It is the plan of the American Red Cross to organize certain definite set-ups, and you who have had experience in situations of this kind know how important that is.

It is the advice of the Red Cross that they establish set-ups about as follows: They want the local health unit in the area affected to certify to the needs of that particular area. If that is the county health officer, if it is the county medical supervisor, he must certify to the local needs. That in turn is transmitted to the head of his state medical organization, who, by his information, knows whether the data that is being submitted to him is reliable and if so he o. k.'s it, giving a double check on the need, transmitting this to Red Cross headquarters, which now is in Memphis and may be moved farther south as the need occurs, and then the Red Cross will transmit through the proper authority. Dr. Breuer in our instance, a request for the type of personnel needed, and that personnel will be immediately supplied.

The Public Health Service have sufficiently trained personnel, and what they haven't probably will be supplied by the Army, to act in a supervisory capacity, especially in these large concentration areas. But Miss Cox specifically asked that she not have the obligation of asking the Red Cross nurses to administer biologicals. So there is going to be a need for men to administer these biologicals.

Another serious problem that is suggested by the president of the Louisiana Medical Association is about as follows: He said that seventy five per cent. of the malaria of Louisiana comes from their delta country. In the last two or three years they have been able to do something through their public health department in destroying the breeding grounds of many of these mosquitoes, but at this time of the year when the mosquito propagation is at its height, nearly 1,000,000 acres of land are overflowed, making ideal mosquito breeding situations. He said in his discussion, "Gentlemen, you will have to send me down barrels of quinine."

The health department of Memphis called attention to the fact that their criticism of having polluted water supply in Memphis, accounting for their incidence of typhoid fever, was taken under serious consideration by the Chamber of Commerce and by their health department. A careful survey of the situation shows that the Memphis typhoid epidemic did not arise in the city of Memphis, but that seventy six per cent. of it was ingress from this Basin in which typhoid fever was prevalent. It shows the type of situation that they are going to have to meet. With all their water supply polluted, with deficient food supply, with deficient shelter, with rain, misery and unhappiness, you can see what the situation is.

I took the liberty, in representing our President, to say

that the Missouri State Medical Association would meet any reasonable emergency in helping these poor people who are so horribly in need of our help and our assistance.

PRESIDENT BREUER: Gentlemen, you have heard my report as your President and also the supplemental report by Dr. Vosburgh. It is before you for your consideration, if any of you have questions to ask.

DR. H. S. MAJOR, Kansas City: What would be considered a reasonable number?

DR. CHARLES A. VOSBURGH, St. Louis: It is my opinion now, with the additional refugees, that Missouri will be called upon for 200 doctors. We have already been asked for twenty five, and that is being supplemented by another call. The St. Louis Medical Society has organized a Committee on Disaster Relief. We have 200 in the St. Louis Medical Society who have signified their intention of meeting a gross emergency. I presume that from the St. Louis Medical Society, in which we have about 1,000 members, we can probably get 100 men. Certainly we will need another 100 men from the state.

DR. L. C. CHENOWETH, Joplin: A few days ago I had a wire asking our community to supply five doctors. I should like to ask the doctor if in sending those wires he anticipated the number of doctors he might draw.

PRESIDENT BREUER: I think fifty was what we asked for at that time.

DR. CHENOWETH: May I ask the Secretary if he has had a response from those men?

SECRETARY GOODWIN: We have had responses from all of them.

DR. CHENOWETH: Will that be enough? Will the quota that you asked for in your wire, taking 100 from St. Louis, draw 100 from the state outside of St. Louis?

SECRETARY GOODWIN: Dr. Vosburgh can answer that question better than I. At the time he asked me to send those wires that was about the proportion that he figured we might be called upon to furnish. I don't know what the development has been since then.

DR. VOSBURGH: The plan suggested did not take into consideration the new things that are happening there today. Only yesterday there were three additional levee breaks inundating 4,000, 5,000 or 6,000 miles of territory, and they have added in the last twenty four hours 75,000 to the refugee army. In that particular there is an illustration that happened at this conference. They had some of their crack engineers there, and a leader of the engineers who knows most about the levees of the Mississippi River, said that in 1922 in discussing the probable flood situation in the lower delta, they had picked out the strongest places on the levee to which no attention need be paid, and were concentrating their efforts on the weakest places, but that the strongest place in the levee was the first one to give way and inundate all their valley. So they admit with a good deal of reluctance and hesitation that they cannot tell what emergency is going to arise. The water is not there yet; it will be a week before the water is there.

DR. E. E. MANSUR, Jefferson City: It seems to me that some of us who have not had military experience would be very greatly handicapped in being thrust into a disorganized piece of work such as that is. I am wondering if this body could not have some weight and influence with the Governor and the National Guard to the end that the medical personnel of the National Guard of the state of Missouri could be called out. These men are accustomed to handling this camp proposition, and this is a camp proposition. I should like to ask as

a matter of information how many men are available as Medical Reserve Officers of the government or attached to the medical section of the National Guard of Missouri.

PRESIDENT BREUER: In reply to that, I will simply say that this is a national proposition and not a state matter alone. There are only 8,000 refugees in Missouri, and we are able, as Dr. Vosburgh has said, to take care of those. Missouri is not calling for help. We are able to take care of that situation; so it is not up to the Governor of Missouri, because we do not need assistance. He has called out certain companies of the militia that are patrolling the country down there, and certain medical officers have been supplied. This situation is outside of Missouri; it is down in Arkansas, Mississippi and Louisiana especially and it is under the direction of the American Red Cross and could not be handled through the state authorities. That is the reason we are asking for volunteers. Any doctor who volunteers his service will be placed under the direction of trained men. As Dr. Vosburgh has told you, the Army and the U. S. Public Health Service have trained men there in camps. What we need is men who want to work, not executives.

DR. C. E. BURFORD, St. Louis: We have all heard this report of Dr. Vosburgh's, which is very elucidating. We know the facts, we have the machinery organized to do the work; all we need is the hearty support of the profession. I am sure we have that, but in order to back up our President and to let him know how we feel about it, I move that this organization express their sentiment as being willing to act in any capacity they are called upon to fill, and give their heartiest support to our President whenever he may call us.

The motion was seconded and carried unanimously.

DR. MANSUR: I should like to offer a slight amendment to the effect that this information be put before the general meeting tomorrow. It seems to me this affects the other physicians who will be attending this convention just as much as it affects us. I should think this ought to be on the program tomorrow, at which time there will be a large number of men present.

PRESIDENT BREUER: The motion has been carried, but I am sure that is agreeable, and we will add that as an amendment.

DR. H. S. MAJOR, Kansas City: I move the report be accepted and referred to the Council. That covers both the President's address and the report by Dr. Vosburgh.

The motion was seconded by Dr. E. L. Stewart, of Kansas City, and carried.

PRESIDENT BREUER: The next order of business is announcements by the Committee on Arrangements.

DR. A. J. CAMPBELL, Sedalia, made announcements with reference to the entertainments.

PRESIDENT BREUER: I should like to ask this body to vary a little from the schedule on the program. We have before us this morning the adoption of the report of the Committee on Constitution and By-Laws which takes into consideration the report that I spoke to you about a while ago. I should like to ask somebody to make a motion that we change the order of business and begin with consideration of the report of the Committee on Constitution and By-Laws. It is a very important thing and while we are here this morning and fresh, I think it would be wise to take up that matter.

DR. T. W. COTTON, Van Buren: I move the order of business be suspended and we consider at this time the report of the Committee on Revision of the Con-

stitution and By-Laws.

The motion was seconded by Dr. Vosburgh and carried.

Dr. M. P. Overholser, Harrisonville, Chairman of the Committee on Revision of the Constitution and By-Laws, read the Committee's report. On motion by Dr. E. E. Mansur, Jefferson City, seconded by Dr. T. B. M. Craig, Nevada, the report was adopted.

Report of Committee on Revision of Constitution and By-Laws

Mr. President and Members of the House of Delegates:

Your Committee on Revision of Constitution and By-Laws held a general meeting at St. Louis, November 17, 1926, in conjunction with the Executive Committee, the Chairman of the Committee on Health and Public Instruction, Dr. H. E. Pearce, Kansas City, and the Secretary of the Association, Dr. E. J. Goodwin, St. Louis. Previous to calling this meeting, numerous consultations were conducted by mail with the various members of the committee and others familiar with the Constitution and By-Laws. We feel, therefore, that every section of the proposed Constitution and By-Laws has had the thoughtful consideration of every member of your committee, your president and former president, your executive committee and the secretary of the Association. At the meeting held in St. Louis your committee spent the entire day in perfecting the construction of the Constitution and By-Laws and endeavoring to protect every right that each member is entitled to and at the same time guard the association from unfair actions of members or applicants for membership. Your committee is merely pointing out the new provisions. Sections not mentioned are the same as in the present By-Laws. The principal changes in the proposed Constitution and By-Laws before you are as follows:

Constitution

Article II. Shortening the printed declaration of the purposes of the organization but including all the vital provisions.

In Article III we have provided for the definition of the term "component societies" so as to include those bodies which do not specify in their title the words "county medical society."

Article IV briefly but completely designates the composition of the Association. Our present By-Laws contain four sections on this topic.

Article VI. A new provision in this article designates the Council as the Board of Trustees of the Association and gives the Council full authority to act for the House of Delegates when that body is not in session. To the Council are added the President, the President-Elect, the Secretary and the Treasurer; nine members are mentioned as a quorum.

Article IX. The officers of the Association are specified as, a President, a President-Elect, a Secretary, a Treasurer and twenty nine councilors. The terms of the councilors are changed from three years to two years, thus allowing one half of the number to be elected annually. You will note there is no provision for Vice Presidents, the President-Elect taking the place of those officers.

Article X. The Council is charged with the duty of submitting the annual budget to the House of Delegates.

By-Laws

Chapter I. Relative to membership the five provisions in our present By-Laws are condensed into three in the proposed By-Laws. A comparison of the two will show that all the rights and privileges of membership are well provided for in the three sections before you.

Chapter III. House of Delegates. Under this important heading the new By-Laws cover in ten sections what was described in fifteen sections in the present By-Laws.

Section 2. Provides for a delegate and an alternate. The provision for an alternate is very important and is not provided for in our present By-Laws. Forty delegates has been suggested as constituting a quorum of the House, which is about the proportion under our present ruling stipulating a majority of the registered delegates a quorum.

Section 4. This section provides for the appointment of reference committees and we have suggested three: One on Amendments of the Constitution and By-Laws, one on Resolutions and one on Miscellaneous Affairs. This section also provides for a Committee on Credentials to be appointed by the President.

Section 9 provides that the House approve an annual budget submitted by the Council.

Chapter IV. Election of officers. There is practically no change in the method of election of officers, the Nominating Committee's duties remaining as at present. The President-Elect must be nominated from the floor and on the adoption of this section, the President for the succeeding year must be so nominated.

Section 5. This is a new section drawn for the purpose

of discouraging the solicitation of votes on the part of any member for an office for himself.

Chapter VI. Council. There are no changes of importance in sections 1 to 6 under this head.

Section 7. Provides the manner in which the Council shall prepare the annual budget through the Committee on Auditing and Appropriations appointed by the Council.

Section 8. Requires the Council to appoint, six months before the annual meeting, a committee of three of its members as a Committee on Arrangements for the annual session and appoint a general chairman of a local committee on arrangements from the membership of the local component society where the annual meeting is held. The local committee on arrangements must provide the meeting places and take charge of all receipts accruing during the annual meeting. All expenditures for the meeting must be authorized by the Committee on Auditing and Appropriations and the Committee on Arrangements must make a final accounting to the Treasurer of the Association.

A provision in our present By-Laws, Section 5, Chapter VII, gives the Council the right to communicate the views of the profession and of the Association in regard to health and sanitation and other important matters to the public and the lay press, such communications to be signed officially by the Chairman and Secretary of the Council. This section has been omitted from the proposed By-Laws and is brought to your attention for such action as you deem wise about retaining it in our By-Laws.

Chapter VII. Committees. In Section 1 the name of our Committee on Health and Public Instruction is changed to the Committee on Public Policy. The Committee on Publication is added as a standing committee. The Committee on Medical Education has been changed to the Committee on Medical Education and Hospitals and a new committee added, namely the Committee on Medical Economics. Each of the committees must consist of three members, to be appointed by the President annually and with the consent of the House of Delegates.

Section 4 gives the Committee on Publication the duty of passing on all reports on scientific subjects and scientific papers heard before the Association, with the power to curtail, abstract, or reject.

Section 6 makes the Committee on Medical Education and Hospitals the Missouri branch of the Council on Medical Education and Hospitals of the American Medical Association and to it must be referred all questions pertaining to hospitals and medical education.

Section 7. The Committee on Medical Economics must investigate the economic status of physicians and report to the House of Delegates with recommendations.

Chapter VIII. Dues and Assessments. The principal change in this chapter is in section 1, which omits stating the amount of annual dues and makes it the duty of the House to determine this sum annually. It might possibly be wiser to incorporate the amount in the printed By-Laws so that every member would know what the sum is. Your committee leaves this matter to the discretion of the House.

Chapter XI. County Societies. Section 3. In this section the Council is empowered with final decision on the qualifications of applicants elected to membership in the county societies. This is a new clause incorporated by the Committee of the American Medical Association. The experience of many county societies would seem to justify this supervision by the Council, for it has frequently happened that a county society would elect an applicant without an investigation of his qualifications, only to find later that he was most undesirable. More than one of our county societies have been saved from this humiliation by our State Secretary, who investigates every new applicant, so your committee feels that this clause should be adopted.

Another new clause is that in Section 3 giving the Council final authority to expel a member should a component society fail to do so after being so requested by the Council.

Section 8. Requires each county society to elect its quota of delegates and an equal number of alternates to represent it in the House of Delegates.

Section 10. Is a new section requiring the county society to appoint a member of an auxiliary committee on Public Policy to work in conjunction with the state Committee on Public Policy and attend the annual meeting of that committee provided for in Section 3 of Chapter VII.

As Chairman of the Committee, I want to express my deep appreciation of the splendid cooperation I have had from all the members of this committee and others upon whom we have called for assistance in preparing this report for your consideration.

C. J. HUNT,
J. E. THORNTON,
E. P. NORTH,
T. W. COTTON,
M. P. OVERHOLSER, Chairman.

PRESIDENT BREUER: The Secretary will now read the Constitution and By-Laws as submitted by the Committee section by section.

Secretary Goodwin read Article I of the Constitution, also Articles II, III, IV, V, VI, VII,

VIII, IX, X, XI, XII, and XIII, which were adopted one at a time on motions regularly made, seconded and carried.

DR. OVERHOLSER: I move the adoption of the Constitution as a whole. The motion was seconded by Dr. Stewart and carried unanimously.

The Secretary read Sections 1, 2 and 3 of Chapter I of the By-Laws, also Sections 1, 2 and 3 of Chapter II, Sections, 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 of Chapter III, Sections 1, 2, 3, 4, 5 and 6 of Chapter IV, Sections 1, 2, 3 and 4 of Chapter V, Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11 of Chapter VI, which were adopted one at a time on motions regularly made, seconded and carried.

Secretary Goodwin read Section 1 of Chapter VII, and a motion was made and seconded that it be adopted.

SECRETARY GOODWIN: Would it be wise to include a Committee on Postgraduate Course as a standing committee?

PRESIDENT BREUER: We have had a committee composed of one member from Columbia, two from St. Louis and two from Kansas City, and it has worked very admirably. The members in Kansas City organized their forces and the members from St. Louis organized theirs, as did the Columbia member, so that when they had a District meeting the Secretary was notified and he called upon these different committees to send out postgraduate lecturers to these meetings in their vicinities. The Secretary asks if you want to place a Committee on Postgraduate Course in this list of standing committees.

DR. E. E. MANSUR: I move a postgraduate committee be added. The motion was seconded and carried, and the Section as amended was adopted.

Secretary Goodwin read Section 2 of Chapter VII, which was adopted, and also Section 3. It was moved and seconded that Section 3 be adopted.

DR. PEARSE moved the adoption of the following amendment: "The Committee on Public Policy shall consist of three members, and the President and the President-Elect, and such other members whose experience suggests their value in emergency, to be called by the Chairman of the Committee." Seconded and carried.

Secretary Goodwin read Sections 4, 5 and 6, which were adopted one at a time. He then read Section 7, a Committee on Medical Economics, and a motion was made and seconded that it be adopted.

DR. CHENOWETH: What does that mean?

DR. PEARSE: I can tell you one thing it means. We are having a lot of trouble in the state about these public or periodic health examinations. They affect the welfare of the physician very closely. The thing is in a chaotic state. If you have read the last *Bulletin* of the American Medical Association I think you will agree we should have a committee with the very best brains we have in the Association to look after that. That work belongs to the physician and must be kept in the hands of the physician. We as doctors originated the idea of the periodic health examinations, which has been quietly wiped out of our hands by the chiropractors, the insurance companies, and groups of business men who wish to make money out of it hiring an unimportant doctor to do the examining and paying him a small fee and as business men collecting the money. That is exactly what we need a Committee on Medical Economics for, and we need a good one and one with a large, stuffed club.

DR. CHENOWETH: That is the reason I asked the question. The public is beginning to grasp the idea of periodic health examinations. It ought to be stressed by this Association that periodic health examinations should be encouraged and that they

ought to be examinations such as are helpful and therefore should be paid for.

The motion to adopt Section 7, Chapter VII, was carried.

Secretary Goodwin read Section 1, Chapter VIII. A motion was made and seconded that it be adopted.

DR. OVERHOLSER: I move to amend by substituting for the first three lines the following: "The annual dues shall be \$8 and shall be levied per capita on the members of the component societies of the Association, provided that for the first two years subsequent to graduation the annual dues shall be one-half of the regular dues."

This is made to apply to the junior members of our profession, many of whom are interns in hospitals, receiving very meager salaries, perhaps some of them nothing at all. It also applies to young men starting out in active work. The first few years they oftentimes have quite a struggle getting a foothold in practice. I feel that we should encourage them and do what we can, and also give them the opportunity of enjoying the privileges of our Association for one half the dues until they get into active work and do something.

The motion was seconded by Dr. Stewart and carried, and the Section as amended was adopted.

DR. VOSBURGH: As a member of one of the societies which this particularly affects, I want to express my appreciation to the Committee. St. Louis has now forty seven young doctors for whom they have already instituted this same condition. They are charged half of the fees charged the regular membership in the state society. That applies for the first two years. We hope in St. Louis to get every young man in the St. Louis Medical Society. We have the two universities there that graduate classes each year, and we have a very active committee; we are trying to save every one of those men to organized medicine. We want those men early, and we want them the first year they get out. We are going to teach them medical economics, we are going to teach them medical organization. We want them to help us fight this battle that some of these older gentlemen are finding a very serious one.

DR. T. W. COTTON, Van Buren: I should like to second what Dr. Vosburgh says. I think the same condition obtains in the country.

Secretary Goodwin read Sections 2 and 3 of Chapter VIII and Section 1 of Chapter IX, which were adopted seriatim.

Secretary Goodwin read Section 2, Chapter IX, and a motion was made and seconded that it be adopted.

Discussion by Drs. Pearse, Breuer, Major, Goodwin, Mansur, Robinson, W. T. Coughlin, Vosburgh. The motion to adopt was lost.

Secretary Goodwin read Section 1, Chapter X, Sections 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10, Chapter XI, and Sections 1 and 2 of Chapter XII, all of which were adopted seriatim.

DR. O. C. GEBHART, Forest City: We have overlooked defining the duties of the Postgraduate Course Committee, Section 8, Chapter VII.

SECRETARY GOODWIN: "It shall be the duty of the Postgraduate Committee to provide speakers for District Society meetings when requested by the Councilor."

PRESIDENT BREUER: You have heard the reading of this Section which will cover the duties of the Postgraduate Course Committee. What will you do with it?

DR. VOSBURGH: I move the Section read by Dr. Goodwin be adopted. The motion was seconded and carried.

DR. STEWART: I move the adoption of the By-

Laws as a whole, as amended. The motion was seconded and carried unanimously.

PRESIDENT BREUER: You have been very kind and very patient. I have never seen better attention given to the reading of a lot of dry literature. A motion would be in order that the present Councilor Districts remain as at present organized, until such time as they may be changed, and that in the election of Councilors for the ensuing year, the odd districts be elected for one year and the even districts for two years.

DR. RYLAND: I will make that motion. The motion was seconded by Dr. Cotton and carried.

DR. CRAIG: I move that the reports of the Secretary and the Treasurer be referred to the Council. Seconded and carried.

A motion was made, seconded and carried that the House of Delegates adjourn until three o'clock. The meeting adjourned at twelve o'clock.

Monday, May 2, 1927—Afternoon Session

The Second Session of the House of Delegates convened at 3:20 p. m. President Breuer presiding.

PRESIDENT BREUER: We will begin our session this afternoon with consideration of those reports with which we left off this morning, beginning with the report of the Committee on Scientific Work.

SECRETARY GOODWIN: Dr. Ridge has that report. He is a member of the Committee and is not here at present.

PRESIDENT BREUER: We will pass to the report of the Committee on Health and Public Instruction.

DR. H. E. PEARSE, Chairman of the Committee, read the report. (See page 330.)

DR. E. E. MANSUR, Jefferson City: In my county there has been a great deal of dissension over the legislative program this past year. Most of the doctors possibly do not understand it, but we feel that things were accomplished against us this year which in former years we had opposed. Coming, as it did, at the first session after the assessment for legislative funds, a great many of our members are dissatisfied about it. Whether it is a misunderstanding, I do not know. Anything that Dr. Pearse can tell us on that will help us out.

PRESIDENT BREUER: Supplemental to Dr. Pearse's report, I should like to call on Mr. Caruthers for his report as authorized attorney for this Committee.

MR. J. HENRY CARUTHERS, St. Louis: In order to lay the proper background for my report, I shall give you a brief recital of the facts leading up to the conditions which made amendment to the Medical Practice Act necessary. (For report see page 333.)

DR. PEARSE: There has been one omission that I want to correct: I don't know how I left it out of my report, I don't know how Mr. Caruthers left it out of his report.

There never was a conference between any member of this Association and any chiropractor or any chiropractor's attorney or representative. There never was a promise made by any member of this Committee or any member of this Association that we know of. The matter was checked squarely up to the Assembly, and we told them, "We dislike the crowd, we have got no use for them, we have fought for fifteen years, it is up to you folks," but we never made any promise or any agreement.

PRESIDENT BREUER: You have heard the very comprehensive report of Dr. Pearse, Chairman of the Committee on Health and Public Instruction, supplemented by the report of the attorney for this Committee, Mr. Caruthers, and I think that each member here present can draw at least some idea of the vicissitudes and tribulations and trials that

your Association has had in the past few years in trying to get bills enacted into law. I want to say to you that too much credit cannot be given to these men for the earnest, indefatigable labors that they have put forth in getting this work done for you. It has been unselfish, absolutely without any hope of reward or gain, but done for the benefit not of you as doctors, because it doesn't benefit the doctors, but for the benefit of the public, and if the public could only understand and realize the importance that this legislation bears to them in the protection of their health, their life, they would more fully appreciate what you are doing for them.

These two reports are before you for your consideration.

DR. MAJOR: I move the adoption of the reports. The motion was seconded and carried unanimously.

PRESIDENT BREUER: The next report is that of the Defense Committee.

Dr. Charles E. Hyndman, of St. Louis, Chairman of the Committee, read the report as follows:

Report of Defense Committee

DR. HYNDMAN: This committee thinks that this report reflects directly the attitude of the doctors in general. We have asked for and suggested more cooperation among the doctors in preventing suits from being started. Suits are started and stopped by the doctors themselves. I want to ask you to keep on being careful about remarks that are made about cases that you treat which will give the patient an unwarranted assurance that you will be with them when they make trouble for the other fellow.

This year practically all the cases were dropped, not because the attorneys were so skillful, but because the plaintiffs found that they had no support in their doctors upon whom they depended when they filed suit. I think that is the way we are going to have to defeat this malpractice condition.

Since this compensation law has passed there is a feeling that the attorneys will be out of work and will direct their attention to malpractice suits. I don't think you need worry much about that. If we will be careful about our own attitude toward patients and other doctors, there will be very few malpractice suits.

Status of Cases

Cases pending May 17, 1926	24
New cases during year	7
Threats	3
Cases settled	11
Cases pending	23

No large verdicts have been assessed this year. An appeal from a verdict of \$20,000 rendered last year is still pending in the Supreme Court.

Your committee has rendered financial assistance in three cases during this year.

W. C. GAYLER,
H. UNTERBERG,
C. E. HYNDMAN, Chairman.

DR. WM. A. SHELTON, Kansas City: I move the adoption of the report. The motion was seconded.

DR. H. E. PEARSE: The damage suit question was left out of our report. There have been three damage suits filed against Kansas City physicians who work in the General Hospital without pay. That condition was taken up with the Jackson County Medical Society and referred to this State Committee to see what could be done. We took the matter up with our attorney and he informed us that a statutory requirement is necessary to overcome that. The person who has the direction of the legislative work in 1929 must remember that such a statute must be provided and must be drawn up by some one familiar with the nomenclature, providing that damage suits shall not rest against the physician serving gratuitously. There are such provisions in other states; there is none in Missouri. I think that will cut off a good many suits.

The motion to adopt the report carried.

PRESIDENT BREUER: The next report is that of the Committee on Hospitals, of which Dr. Pearse is Chairman.

DR. PEARSE: I have no report to make except the application of one more hospital for Grade A. That is the Trinity Lutheran Hospital at Kansas City, and the application will be granted.

PRESIDENT BREUER: Next is the report of the Committee on Postgraduate Course, Dr. Ralph L. Thompson, St. Louis, Chairman.

Report of Committee on Postgraduate Course

Dr. Ralph L. Thompson, St. Louis, read the report of the Committee on Postgraduate Course as follows:

This committee was appointed in August, 1926, and its functions described, namely, to prepare a list of speakers who would be willing to attend councilor district meetings to deliver lectures and conduct demonstrations with the view of bringing to the members at these meetings information upon the newer methods of diagnosis and treatment and improvement of old methods.

Your committee organized soon after its appointment and tabulated a list of speakers who were willing to cooperate in this work. The secretarial work of the committee was conducted by the Secretary of the Association to whom we wish to express our thanks.

Your committee has received requests from five councilor districts and two county societies. One county society made a request for speakers at three different meetings, the other county society made a request for speakers at two separate meetings. A total of eighteen speakers were supplied to the various meetings. Following is a tabulation of the work performed by your committee:

Ninth Councilor District meeting held at Columbia, November 4, 1926. Dr. Archer O'Reilly, St. Louis, speaker. About 75 members attended this meeting.

Tenth Councilor District meeting held at Moberly, September 14, 1926. Dr. Llewellyn Sale, St. Louis, speaker. About 75 members attended this meeting.

Fifteenth Councilor District meeting held at Pleasant Hill, September 9, 1926. Drs. M. A. Hanna and G. Leonard Harrington, Kansas City, and Emmett P. North, St. Louis, speakers. This meeting was held at the Baldwin Lake Club House where the members enjoyed a picnic session. About 50 members attended.

Twenty Seventh Councilor District meeting at Willow Springs, November 19, 1926. This was a joint meeting of the 24th, 26th and 27th Councilor Districts. The speakers were Drs. H. J. McKenna, Walter A. German and Paul F. Stookey, Kansas City. A night session was held to which the public was invited and addresses were given on "Cancer," "Timeful Surgery," "Preventive Medicine," and "Periodic Health Examination." About 50 members attended the meeting.

Twenty Eighth Councilor District meeting held at Springfield, October 28-29, 1926. This meeting was held in conjunction with the Southwest Missouri Medical Society. The speakers were, Drs. W. C. Gayler and Ellis Fischel, St. Louis. The president of our Association, Dr. W. H. Breuer, St. James, and Dr. Jabez N. Jackson, Kansas City, were the guests of the Southwest Missouri Medical Society. About 150 members attended this meeting.

Holt County Medical Society, meetings on December 10, 1926, February 8, 1927, and March 11, 1927. At each of these meetings two speakers were present at the committee's request, namely Drs. C. C. Conover, Homer Beall, A. J. Welch and Albert S. Welch, Eugene Hamilton and R. C. Davis, all from Kansas City.

The Marion County Medical Society, meetings on November 3, 1926, and February 4, 1927. To these meetings the committee sent Drs. Walter Baumgarten and John W. Stewart, St. Louis.

We feel that this work could be made of great value if more advantage would be taken of the talent offered. The committee can supply first class speakers in any department of medicine whenever called upon. We respectfully suggest that a Looklet or circular be printed outlining what this committee has to offer and be distributed to the component societies.

Respectfully submitted,
FRANCIS REBER,
C. B. FRANCISCO,
SAM SNYDER,
GUY L. NOYES,
R. L. THOMPSON, Chairman.

On motion by Dr. O. C. Gebhart, Forest City, duly seconded, the report was adopted.

Dr. Frank G. Nifong, Columbia, read the report of the Committee on Medical Education as follows:

Report of Committee on Medical Education

Your Committee on Medical Education does not see the necessity of making a voluminous report as would be neces-

sary if all the points of interest in modern medical education should be discussed. An education into a profession, based on a new science so rapidly developing during the last half century, must of necessity be constantly changing in its methods and procedure. Indeed, medicine in this evolutionary stage must be served by teaching methods which are likewise changing rapidly and radically. It is a subject therefore demanding the combined wisdom of our best educators. Our Council on Medical Education and Hospitals of the American Medical Association is struggling valiantly with the many problems and with the proper cooperation of the medical colleges, no doubt, there will be established stable and satisfactory curricula. The endeavor of the council to standardize and approve hospitals suitable for internship is most difficult as well as praiseworthy. It is through this internship that the most important part of the student's education is received which fits him for actual service. It is service that justifies all educational efforts.

This council has seen fit, in a recent report, to call attention to a phase of medical education which is of vast importance in the functioning of a cultured physician and which is apparently more or less neglected in many of our schools. This same matter was brought to your attention in a report of this committee several years ago. We speak of the lack of instruction of the student in the principles of medical ethics. The effort to teach him his proper 'social relationship' so that he may find his place and fill it with dignity in actual service. But some one will say, "Why teach something not actually medical science when there is so much to teach?" "Why not teach by example alone and neglect precept?"

Some of us will recollect with pleasure the hours spent in listening to didactic lectures in our now anathematized old "proprietary medical schools," by the doctor professors of the old school type, teaching us by word of mouth as well as by worthy example. One of them would take pains to give us complete instruction in the code of medical ethics and definitely point out to us the right and wrong in our conduct toward the profession and the laity. Another would give a series of lectures on medical history, which would en-thuse us and make us proud of our discipleship in so noble and altruistic a profession. One would give a course on medical jurisprudence and the business side of medicine, endeavoring to teach us where the pitfalls may be found. And all through and through these didactic lectures were leavened with the eternal principles of justice and right relationship, which is medical ethics. Indeed it is due to the standards of these old pioneers, to their right thinking and clean living, that our profession today is so altruistic, so superior and outstanding in ethical ideals. Will anyone contend that these high ethical standards have not given us better medical service? Will anyone say that the object of medical education is other than rendering service?

The principles of medical ethics are as unchangeable as justice and right for they are exactly that, but there are now so many new conditions in medical practice to which these principles must be applied. Ethics must be applied to the fact that now medicine is most truly scientific and not so much the practice of an empiric art; to the doctor's relationship to the public in his proper function as a teacher of health education and publicity and to his relationship to federal and state health laws and the like. Ethics must be applied to the complexities of hospital service and relationship; to the practice of group medicine and team work, and to the more frequent contact with our fellows in cooperative effort which makes a different situation from that when the doctor of the old school was the sole factor in the relationship. These eternal ethical principles should be taught and applied to the existing modern complex existence. They will add no less to the dignity and worth of the modern highly trained scientific physician than they did to the empiric doctor of the old school.

By your acceptance of this report you will indicate to the American Medical Colleges that it is the sense of our Association that they give greater emphasis to the teaching of medical ethics and the 'social relationship' of the doctor.

Let us forget, there is a matter of medical education which this Association endorsed most heartily a few years ago and which pertains to our own state. It is the demand that medical education in full not in part as now be furnished by our state and that the University of Missouri be furnished the means and be required to teach medicine to our youths until they are ready for service. This demand was made by our Association as a matter of justice, pointing out that it is as much the duty of the state to educate doctors of medicine as it is to educate lawyers, teachers, farmers, engineers or journalists. Indeed, it could be well demonstrated that none of the professions may render in return to the state more valuable service than does medicine. Therefore, so long as our state is committed to the Jeffersonian principle in higher education we should insistently demand this education as a matter of justice as well as a matter of good business for our state. We are, therefore, only consistent when we again declare for the education of doctors of medicine in our State University.

On motion of Dr. C. T. Ryland, Lexington, duly seconded, the report was adopted.

PRESIDENT BREUER: Next is the report of the Council, Dr. A. R. McComas, Chairman.

Dr. A. R. McComas, Sturgeon, read the report of the Council as follows:

Report of the Council

The Executive Committee has held seven meetings since the last annual meeting of the Council.

At the 1926 annual session, in St. Louis, the Executive Committee recommended establishing a budget system and auditing our accounts by certified public accountants, and the Council approved these recommendations. The House of Delegates also approved these recommendations.

The Executive Committee, at its meeting on June 19, 1926, employed Kessler, Cartall & Company, certified public accountants, St. Louis, to audit the books of the Association for the years 1924, 1925 and the first six months of 1926. This audit was completed in August and published in the October, 1926, issue of *THE JOURNAL*. At this meeting the committee established a budget of the expenses of the Association for the remainder of the year 1926.

The meeting of August 10, 1926, was a called meeting of the councilors with the Committee on Health and Public Instruction held at Jefferson City for the purpose of discussing proposed amendments to the Medical Practice Act and their introduction in the 1927 session of the legislature.

At the meeting of August 18, 1926, the Committee authorized the Committee on Health and Public Instruction to employ Mr. J. Henry Caruthers, St. Louis, former Assistant Attorney General, to take charge of the bills to be introduced in the legislature at our request for a fee of \$2,000 and expenses. At this meeting a postgraduate committee was established, as recommended in the Executive Committee's report last year, composed of five members whose duty was to send members of the Association to councilor districts and county societies for the purpose of delivering lectures and holding clinics when feasible.

On November 17, 1926, the Executive Committee met with the Committee on Revision of the Constitution and By-Laws and spent the entire day studying the proposed Constitution and By-Laws recommended by the American Medical Association. Each section in the proposed form was read and discussed and the result of these deliberations will be transmitted to you by the Committee on Revision of the Constitution and By-Laws.

At the meeting held in Jefferson City, January 12, 1927, your committee authorized the employment of Kessler, Cartall & Company to audit the books of the Association for the last six months in 1926 and to make a condensed statement of the financial affairs of the Association for the entire year 1926. This was done and the report published in the April, 1927, *Journal*.

On January 12, 1927, the Executive Committee held their second meeting with the Committee on Health and Public Instruction. The officers of the State Board of Health, the physician members of the legislature and others interested in the passage of the amendments to the Medical Practice Act were invited to attend. Altogether there were twenty three persons at the meeting.

At this meeting the amendments to the Medical Practice Act were put into form for introduction and Dr. Guy B. Mitchell, Branson, Senator from the 19th District, was requested to introduce the bill in the Senate and Dr. Charles H. Wallace, St. Joseph, a representative from Buchanan County, was requested to introduce the bill in the House of Representatives. The amendments were approved for introduction practically as submitted to the county medical societies, there being only one or two minor alterations.

A proposition from the State Board of Health that a separate bill be introduced providing for reciprocity and the acceptance of the certificate of the National Board of Medical Examiners was not approved, this having been provided for in the original bill.

At this meeting another bill was approved for introduction making it a misdemeanor for a medical school to issue a diploma to any person who has not attended the required course of instruction, and also making it unlawful for a person to accept a diploma without first having attended the required number of courses. We also approved the introduction of a bill by the Association for Criminal Justice, creating a Department of Mental Diseases in the Board of Eleemosynary Institutions. The Committee also approved the introduction of a bill providing for the free care and treatment of indigent crippled children at the hospital of the State University at Columbia. Several other bills were submitted to the committee for approval which were proposed by organizations not related to the medical profession, but the committee declined to accept any responsibility for the introduction or passage of these bills.

At the meeting held in St. Louis, April 8, 1927, which was the final meeting before the annual session of the Association, the Committee spent the day going over the work of the Committee on Health and Public Instruction as reported by the chairman, Dr. H. E. Pearse, Kansas City, and examining the proposed Constitution and By-Laws for possible improvements in the provisions. A proposition from the President of the St. Louis Medical Society, Dr. C. A. Vos-

burgh, that provision be made for junior members was approved. You will hear this amendment introduced when that section comes up for discussion. Junior members are those who apply for election soon after graduation and pay one half the amount of the regular State dues. Such membership is limited to the first two years after graduation when junior members automatically become full active members and pay the regular amount of dues.

At this meeting a proposition was submitted by one of the state senators suggesting that the chiropractic bill be made the subject of a referendum. Your committee thought that this matter should be brought to the attention of the House of Delegates and, therefore, took no action.

A committee of the American Medical Association has been endeavoring to ascertain the number of incapacitated and indigent physicians in the country with a view of making recommendations for their relief. Dr. George H. Simmons, Chicago, is chairman of this committee and the chairman of your Council is a member. Through the office of secretary we found seven physicians in Missouri who were incapacitated through physical or mental inferiority.

Five of these are members of our Association, two non-members. Four are self-supporting, or could be supported by relatives, leaving three requiring assistance. One of the physicians needing assistance was accepted as a guest by the Physicians' Home in New York, but after arrangements had been made for his transportation to that institution he declined to go to the Home. The other two physicians needing assistance also declined to leave home for assistance in any institution. Since the investigation began, one of these has died.

The question was discussed by your Executive Committee as to whether our Association should establish a fund which could be used to extend aid to our members who might become incapacitated and who are financially unable to provide for their care.

Dr. P. D. Gum, West Plains, moved that the report be adopted. Seconded by Dr. C. A. Vosburgh, St. Louis.

That portion of the report dealing with provision for indigent and incapacitated physicians was discussed by Drs. W. T. Martin, F. A. Howard, P. D. Gum and A. R. McComas.

The motion to adopt carried.

Dr. H. E. Pearse, Kansas City, called attention to the statement in the report of the Council regarding a proposition from one of the senators in the General Assembly to submit the chiropractic bill to a referendum. Dr. Pearse asked the House to take some definite action upon the question because the senator has been a consistent supporter of the medical profession and has never voted for any bill to license any cult. The senator offered to give his time and energies toward making a referendum successful if we decided to refer the bill. The question was discussed by Drs. Guy B. Mitchell, Senator from the 19th District, Frank G. Nifong, W. T. Elam, D. A. Barnhart.

Dr. D. A. Barnhart, Huntsville, moved that the secretary be instructed to write the senator and inform him that the House of Delegates, after a liberal discussion of the question of the referendum on the chiropractic bill, is opposed to referring the bill and extend to the senator the thanks of our Association for his interest in the subject. Seconded and carried.

It was voted, on motion by Dr. John L. Robinson, Kansas City, that an invitation be extended to the American Medical Association from the Missouri State Medical Association and the Jackson County Medical Society to hold the 1927 Convention of the A. M. A. in Kansas City. Seconded and carried.

An invitation was extended by Dr. J. E. Thornton, Columbia, representing Boone County Medical Society, for the Association to hold the 1928 meeting at Columbia. It was voted, on motion of Dr. A. J. Campbell, Sedalia, duly seconded that the invitation be accepted. Carried.

Dr. L. C. Chenoweth, Joplin, introduced the question of the status of the periodic health examination movement and asked for an expression in favor of or against it. Dr. Campbell, Sedalia, moved that the matter be referred to the Committee on Medical Economics. Carried.

The President appointed the following Nominating Committee: Dr. W. L. Allee, Eldon, Chairman; Dr. O. J. Dixon, Kansas City; Dr. Erich Schulz, St. Charles; Dr. A. H. Marshall, Charleston; Dr. P. D. Gum, West Plains; Dr. A. J. Campbell, Sedalia; Dr. W. M. West, Monett; Dr. J. W. Dawson, Eldorado Springs; Dr. W. C. Gayler, St. Louis; Dr. H. S. Conrad, St. Joseph.

On motion of the Secretary, the House adjourned at 5:40 p. m., in memory of Dr. G. C. Willson, Nevada, First Vice President of the Association, now deceased.

Announcement was made that the House of Delegates would convene at 9:30 a. m., Wednesday, May 4, in the Probate Court Room.

HOUSE OF DELEGATES

Wednesday, May 4, 1927—Morning Session

The Third Session of the House of Delegates convened at 9:30 a. m., Wednesday, May 4, 1927, President Breuer presiding.

PRESIDENT BREUER: The first order of business is the roll call of officers, delegates and councilors. Secretary Goodwin called the roll and announced a quorum present.

PRESIDENT BREUER: The next order of business is the reading of the minutes of the previous meeting.

A motion was made, seconded and carried that the reading of the minutes be dispensed with.

PRESIDENT BREUER: As you all know, this flood disaster we spoke to you about is to be considered with respect to the need of the American Red Cross for volunteer physicians to proceed immediately to work. If Dr. Fred Bailey, who is the Red Cross Director at St. Louis, is here, we will give him a few moments to tell us the definite plan of what they want to do. I will ask Dr. Bailey to address you at this time.

DR. FRED BAILEY, St. Louis: It will take just a minute to say what I have to say. There is no need of describing the situation. You are all conversant with that, but we are informed it is probably going to require quite a number of physicians to assist those who are working overtime in the flooded sections at the present time. They do not know definitely how many will be needed or how long, but as soon as the call comes in, we would like to have the authority of the State Association to proceed to utilize those that are volunteering. As I understand it, the societies in the towns in the state where they have a sufficient number of physicians to spare one, two, three or five, are sending in their quota to Dr. Goodwin's office in St. Louis; he in turn is turning the information over to our committee and we expect to use those gentlemen as needed. There will be directions to report at certain places at certain times and it is not the intention to call on any physician from the country districts unless absolutely needed.

We will probably get the authority of the deans of the universities to use the senior class students in administering vaccines, serum, etc., which can be done by the senior students under the proper authorities in charge, but the only thing I wanted to ask was that the representatives, the president or secretary of the county societies would send to Dr. Goodwin's office the number of men they can offer to utilize in case of extreme emergency. The Red Cross takes care of the expenses of all the doctors who are working in this emergency.

DR. M. B. CLOPTON, St. Louis: Mr. President and Gentlemen: I think the plan in the scheme worked out by the American Medical Association, under their Committee, was to avoid such confusion as they had in Murphysboro when all sorts of men flocked into that district without authority. The plan to have all this relief work under the Red Cross, so the proper heads could direct the work, has been carried through. The medical profession ought to be the first to fall in line and this is a move to get the medical profession in line with that sort of thing, with a volunteer list of men who are will-

ing to volunteer their services, in order that we will know exactly where we can get men to carry on the work at a moment's notice and avoid such confusion as we saw in Illinois. I now make a motion that the President appoint a committee of three to organize the doctors of the Missouri districts for the Red Cross work. Seconded and carried.

The next order of business, gentlemen, is the election of president for the coming year. Under the adoption of the new By-Laws that we adopted Monday at our first meeting, they are to elect a president who will serve this next year and a president-elect who will take his office next May at the meeting in Columbia next year, so the first order of business will be the election of a president to serve for the ensuing year.

DR. T. W. COTTON, Van Buren: I desire to place in nomination a gentleman, a member of this Society. I think it was Booth Tarkington who gave to the world a picture of some ditch diggers with picks and shovels working. They didn't show any interest in their work, in fact, they showed so little interest in their work that when the whistle blew the man with his pick ready to make a strike and the man with his shovel ready to unload the shovel of dirt were pictured as dropping their implements in the middle of the work, and he characterized them as "whistle splitters." The man I want to suggest is in no sense, medically speaking, a whistle splitter; he is a man who has been in the active practice of medicine thirty eight years, nearly half of which was in the greatest city of this state, the rest of the time in a smaller town, so I say he is able to view the medical situation in Missouri from every angle. He is a typical Missourian, born and raised in Missouri; his father was born and raised in Missouri, his grandfather was born and raised in Missouri, so I say he is a typical Missourian from pioneer stock.

In medicine, service is the only thing we have to offer. This man has rendered a full measure of service all these years and I think I am clearly within the line of reasonable assertion when I say that perhaps this man has done more charity service than any other member of this Association in the last thirty eight years; he has been a supporter of regular organized medicine through the medical societies; he has always given to the Society his influence, his presence, and has contributed to the scientific program. Besides being an outstanding man in medicine he is in every sense a man who stands foursquare to all the world, and by honoring him as president of this Association I believe that this Association honors herself. It is with great pleasure that I present to this Association for election to the place of president the name of Dr. Frank G. Nifong, of Columbia.

Motion was made, seconded and carried unanimously that the nominations be closed and the Secretary be instructed to cast the entire ballot of the House of Delegates for Dr. Nifong for President for the ensuing year.

SECRETARY GOODWIN: Mr. President, it gives me great pleasure to cast the vote of the House of Delegates for the election of Dr. Nifong for President.

PRESIDENT BREUER: I am going to appoint a Committee to find Dr. Nifong and bring him in as soon as we get through with the election of officers to let him talk to you a few minutes. I will appoint Doctors Cotton, McComas and Emmett North. The next order of business will be the election of President-Elect.

DR. G. WILSE ROBINSON, Kansas City: A year ago, a member of the Jackson County Medical Society was honored by being elected President-Elect of the American Medical Association, and the Jackson County Medical Society, wishes to announce to this Association the name of one of its members for the election to the office of President-Elect of the Missouri State Medical Association. This man has been endorsed unanimously by the Jackson County Medical Society. He was born and raised in Missouri, educated in Missouri, is an alumnus of the Missouri State University, a graduate of the Medical School of Columbia University of New York; he early allied himself with organized medicine; he has for many years been active in the work of the Jackson County Medical Society and the Missouri State Medical Association; he has been vice president of this Association and for several years has been actively working on the Committee on Scientific Work and his work has been eminently satisfactory. He has been diligent and consistent in working for organized medicine and in his county society and the State Association his professional standing is high; there has never been any question as to his ethical standing.

The personality of this man is pleasing, his qualifications for the office of president of the Association are good, the Jackson County Medical Society takes great pleasure in presenting the name of Dr. Frank I. Ridge, of Kansas City, for the office of President-Elect of the Missouri State Medical Association.

Motion was made and seconded that the nominations be closed and that the Secretary cast the vote of the House of Delegates for Dr. Ridge as President-Elect. The motion carried unanimously.

SECRETARY GOODWIN: Again it gives me great pleasure to cast the vote of the House of Delegates for the election of Dr. Frank I. Ridge for President-Elect.

PRESIDENT BREUER: I am going to appoint a committee to escort Dr. Ridge into the hall. I will appoint Dr. Robinson, Dr. Craig and Dr. Major.

The next order of business will be the report of the Nominating Committee, Dr. Allee, Chairman.

Report of Nominating Committee

DR. W. L. ALLEE, Eldon: The Nominating Committee presents the following names for councilors: First District, O. C. Gebhart, Oregon; Second, H. S. Conrad, St. Joseph; Third, A. J. Crockett, Stanberry; Fourth, G. M. Bristow, Princeton; Fifth, J. R. Bridges, Kahoka; Sixth, J. S. Gashwiler, Novinger; Seventh, T. J. Downing, New London; Eighth, B. K. Stumberg, St. Charles; Ninth, A. R. McComas, Sturgeon; Tenth, D. A. Barnhart, Huntsville; Eleventh, J. H. Timberman, Chillicothe; Twelfth, Spense Redman, Platte City; Thirteenth, G. E. Bellows, Kansas City; Fourteenth, C. T. Ryland, Lexington; Fifteenth, L. J. Schofield, Warrensburg; Sixteenth, T. B. M. Craig, Nevada; Seventeenth, Guy Titsworth, Sedalia; Eighteenth, W. L. Allee, Eldon; Nineteenth, M. R. Aldridge, Jefferson; Twentieth, W. C. Gayler, St. Louis; Twenty First, Thomas F. Estel, Altenburg; Twenty Second, U. P. Haw, Benton; Twenty Third, T. J. Rigdon, Kennett; Twenty Fourth, T. W. Cotton, Van Buren; Twenty Fifth, R. W. Gay, Ironton; Twenty Sixth, W. H. Breuer, St. James; Twenty Seventh, J. C. B. Davis, Willow Springs; Twenty Eighth, W. M. West, Monett; Twenty Ninth, R. M. James, Joplin.

For the delegates to the American Medical Association: Delegates for 1927-1929, E. J. Goodwin, St. Louis; alternate, Guy B. Mitchell, E. P. North, St. Louis; alternate, R. A. Woolsey. For 1926-1928, G. W. Wile Robinson, Kansas City; alternate, J. R. McVay, W. J. Ferguson, Sedalia; alternate, A. J. Campbell, W. T. Elam, St. Joseph; alternate, H. L. Kerr.

W. L. ALLEE, Chairman.

Dr. Allee moved the adoption of the report and that the Secretary be instructed to cast the ballot of the House of Delegates.

The motion seconded and carried unanimously.

SECRETARY GOODWIN: I take great pleasure in following the instructions of the House and cast the vote of the House for the above named to be elected.

DR. G. W. HAWKINS, Salisbury: I believe it would be in order at this time and I move that we send a telegram to Dr. Woodson, of St. Joseph, who is in very bad health and has been for a long time and who would love to come to this Association.

The motion was seconded and carried unanimously.

DR. H. S. CONRAD, St. Joseph: I would like to present a resolution and say to the Ladies' Auxiliary that we express our appreciation for the work they are doing and express our gratification for their co-operation and help to the physicians in this Association. I make that motion.

The motion was seconded and carried unanimously.

PRESIDENT BREUER: I think it is nothing more than right and courteous to the Ladies' Auxiliary that they be given this expression of our appreciation and I am going to appoint Dr. Gum to represent me this afternoon to deliver to them our message of appreciation.

Dr. Cotton and Committee entered the room with newly elected President, Dr. Nifong. All members arose.

DR. T. W. COTTON, Van Buren: Mr. President, and Members of the State Association, it is with

very great pleasure that we present to you the new President for the ensuing year, Dr. Nifong.

DR. NIFONG: Gentlemen, it is quite overwhelming, I assure you, although I had some rumors passed to me subrosa, that I might be a favored candidate for this august position. I wish to speak to you very briefly and tell you first, of course, that I appreciate the honor even more highly than I can express, because I cannot express myself very easily, but indeed, it is an honor and I appreciate it most highly.

I realize at the same time that this honor carries with it some burdens, some serious obligations which must be fulfilled and which I in diffidence, as I should be, am very doubtful about fulfilling especially as some of my illustrious predecessors have performed their duties. I have been a member of the Missouri State Medical Association in a humble way for many years and watched its course, its ups and downs and various trials and tribulations which we have gone through, with much interest and concern, and in my small way have taken part in its deliberations and the promotion of its purposes. In the last few years I have felt somewhat discouraged and a little bit disappointed on some occasions. At our meetings in olden times, when I was younger, I should say a short while ago, we had some very stalwart leaders in this Association, as you all know, men whom we looked up to and were glad to follow in their purposes and endeavors and their leading of the Association. I don't mean it hasn't been led most successfully of late, but it seems to me that some of our younger, so called scientific members are lacking in enthusiasm and zeal for the Association which they should have, and that has been a concern of mine, somewhat to myself, of course, because I haven't voiced it. But I am exceedingly gratified at this meeting to see the enthusiasm and harmonious purpose that is displayed and I now feel sure that we are on the road to future expansion and success and our zeal will not be lessened.

I appeal to all the members of this Association, especially the younger members, to become more and more enthusiastic and helpful in it. There is no one who has been a member for any length of time who can fail to estimate the value of organized medicine, its purposes, its aims and the good it does. I feel more has been accomplished than for a long time under wise leadership and good management, and I feel now that it is really a very opportune time for one, when things are starting so well, and for one who has the minimum of ability that I have, to come in and enjoy the honors; not that I want to act with any less energy than anyone should, but I feel it will be a little smoother sailing than it has been for some time in the past.

These thoughts simply come to me on the purpose of our Association, and I appeal to you to continue in this purpose. The harmony displayed in this meeting I hope will continue. I used to be somewhat of a scrapper myself in a small way. I have long since given that up; I am nothing but a pacifist now, and when this pacifist work is needed, I am willing to act to the best of my ability always. I thank you all very much.

Dr. Robinson and Committee entered the room with Dr. Ridge, President-Elect, and all members arose.

DR. G. WILSE ROBINSON, Kansas City: Mr. President and Members: The Franks seem to be popular today. We have another Frank, and it gives me great pleasure to present Frank I. Ridge, of Kansas City, the newly elected President-Elect of the Missouri State Medical Association.

DR. RIDGE: There isn't really much for me to say. I can't tell you how honored I do feel in this courtesy that has been shown me and I also feel kind of like "sitting on top of the world." I believe that being the understudy and following the precepts of Dr. Frank Nifong I can't very well go wrong. We know that we are going to be behind Dr. Nifong in any cooperation that I can give him, and we are going to work the best we can for the good of our Association. So if the time comes when I am to preside I am afraid you are going to get tired of hearing me say, "Now, Dr. Nifong did it this way." I thank you.

DR. GUY B. MITCHELL, Branson: There was a resolution passed by the last General Assembly that I think should be brought up before this body and I wish the Secretary to please read the resolution.

Secretary Goodwin read the resolution as follows:

Resolution on Crippled Children

Mr. President: I am instructed by the House of Representatives to inform the Senate that the following concurrent resolution has been offered into and adopted by the House of Representatives:

WHEREAS, There are now in Missouri 10,000 or more crippled children many of whom have had no skilled medical

attention or opportunity to go to school and are consequently growing up illiterate and dependent, and

WHEREAS, The majority of these children may be cured and taught if suitable facilities are provided, and

WHEREAS, Eight of the states already maintain hospital schools for such children and several other states have hospitals, convalescent homes and special educational funds for them. Therefore, be it

Resolved, By the House of Representatives, the Senate concurring therein, that the following commission consisting of the Commissioner of Health, the State Superintendent of Public Schools, a skilled orthopedic surgeon to be named by the governor, and one member of the House appointed by the Speaker of the House and one member of the Senate, appointed by the president pro tem of the Senate, it is hereby authorized and requested to investigate and take into consideration the needs of the crippled children of Missouri.

This Committee to investigate institutions for the care and education of crippled children now being maintained by other states and to recommend to the next legislature such action as the circumstances warrant. Such recommendations to include, if the founding of a special institution seems to be wise:

First. A suitable location.

Second. The type of disabilities to be received.

Third. An outline of the type of service to be offered free and the ones for which payment may be expected.

Fourth. A recommendation as to an appropriation and a method of financing the work for such children.

An appropriation not to exceed \$1,000, one half to come from the contingent fund of the House and one half from the contingent fund of the Senate, is hereby set aside to pay the actual traveling expenses and hotel bills of the members of this commission.

In which the concurrence of the Senate is respectfully requested.

DR. MITCHELL: This resolution was introduced in the House of Representatives by Dr. A. H. Baldwin, of Cass County, and was called up and sponsored in the Senate by me. Senator Gordon, of Liberty, was appointed by the President of the Senate to be a member of the commission and Dr. Baldwin, of Cass County, was appointed by the Speaker of the House. The other members of the commission are the Superintendent of Schools, Mr. Charles A. Lee, State Health Commissioner Dr. James Stewart and Dr. Rex Dively, Kansas City, a skilled orthopedist. It rests with the House of Delegates whether or not you wish to go on record as endorsing this resolution. To me it seems to be a wonderful opportunity for the Association to offer its cooperation in this movement and establish ourselves as a body interested in the general welfare of the public.

Dr. H. L. Kerr, Crane, moved that the House of Delegates endorse the resolution and that a copy of this action be sent to Governor Baker. Seconded.

Dr. A. R. McCOMAS, Sturgeon: While on the subject of crippled children, I wish to call the attention of the House to the passage of a bill in the last session of the legislature establishing a hospital for crippled children in the State University Hospital at Columbia and appropriating \$10,000 to start the work. This bill aroused the interest of all the members of the General Assembly and was particularly sponsored by Senator Michael Kinney, of St. Louis. It was referred to the Senate Committee on Eleemosynary Institutions and Public Health where it was rewritten and was regarded as a model bill of its kind. I have received a telegram since the session began informing me that Governor Baker had signed the Crippled Children's Bill and had released the appropriation of \$10,000 making this immediately available for the work.

Dr. McComas moved to amend the motion to endorse the resolution by extending a vote of thanks to Senator Kinney and to the members of the Senate Committee on Eleemosynary Institutions and Public Health. Seconded and the motion was amended carried unanimously.

Dr. W. L. Allee, Eldon, stated that several members of our Association made quite a sacrifice of time and effort in the last legislature and that in particular two members, namely, Senator Guy B.

Mitchell, of Branson, and Representative Charles H. Wallace, of St. Joseph, had been very active and very influential in the passage of our bills and he moved that the House of Delegates express our thanks to these members and our appreciation of their splendid work and loyalty to the organization and that this vote of thanks be extended also to Drs. A. H. Baldwin, Pleasant Hill, E. L. Barnhouse, Ironton, B. E. Latimer, Hartville and J. W. Holliday, Tarkio, members of the House of Representatives. Seconded and carried unanimously.

President Breuer announced that several of the past presidents of this Association together with the personal friends and the alumni of Barnes Medical College were giving a dinner at the Country Club at 5:30 this evening in honor of Dr. A. R. Kieffer, of St. Louis, a past president of this Association and former dean of the Barnes Medical College, and extended an invitation to the members to attend the dinner.

Dr. F. C. Waite, of Cleveland, Ohio, a guest of the Association, was invited by President Breuer to address the House.

DR. F. C. WAITE, Cleveland: I have very little to say. My chief job is that of an educator; I am in my twenty sixth year in the medical school and I have come to the conclusion that the solution of medical educational problems lies not in the school but in professional practice. I believe that the thing the schools should do is prepare men for the practice of medicine, that primarily, and it is for the practicing profession to say what the schools should be. I am much interested in organized medicine. I am not a physician myself, although I come from a family of physicians, but I have had much to do with training men in getting ready to practice medicine. I know a great deal of the inside and although I am not one of you myself my sympathy is thoroughly with organized medicine, and I hope some time I may be able to do something to help the progress of what, to my mind, is one of the largest forces for American civilization.

SECRETARY GOODWIN: The President of the Missouri Valley Medical Society, Dr. T. G. Orr, Kansas City, asks us to announce they will hold their next meeting at Des Moines, Iowa, on September 14, 15 and 16. At this meeting there will be six representatives from the large medical schools. The Society is forty years old and wants the members of the Missouri Association to attend.

Dr. H. E. Pearse, Kansas City, spoke of the lack of interest displayed by members of the Association in the efforts of the Women's Auxiliary to increase the circulation of Hygeia and said that the ladies felt considerably discouraged because of this seeming indifference on the part of the men. He reviewed the efforts of the American Medical Association to establish Hygeia and the large expense incurred and stated that it was the most worthy public health measure for popular health instruction within the reach of the regular medical profession. He said the women had been invited to make the campaign for increasing the circulation of Hygeia one of their principal undertakings and they had done so with marked success in several counties but they did not want to continue this activity unless the men manifested a more active interest in their efforts. He thought it was due the women that some expression of encouragement be given by the House and he hoped this would be done.

President Breuer informed Dr. Pearse that the House of Delegates had already adopted a resolution expressing to the Auxiliary our appreciation of their work and that he had appointed Dr. Gum to convey to the Auxiliary his personal appreciation and the sentiment expressed by the House in the resolution.

There being no further business to come before the session it was moved and seconded and carried that the House adjourn *sine die*.

MINUTES OF THE COUNCIL

Assembly Room, Court House

Monday, May 2, 1927

The first meeting of the Council convened in the Assembly Room of the Court House, Sedalia, at 1:10 p. m., Monday, May 2, 1927, the Chairman of Council, Dr. A. R. McComas, Surgeon, presiding.

The Secretary called the roll and eighteen Councilors answered as follows:

- 2nd District, H. S. Conrad, St. Joseph.
- 7th District, T. J. Downing, New London.
- 9th District, A. R. McComas, Surgeon.
- 10th District, D. A. Barnhart, Huntsville.
- 11th District, J. H. Timberman, Chillicothe.
- 12th District, Spence Redman, Platte City.
- 13th District, Geo. E. Bellows, Kansas City.
- 14th District, C. T. Ryland, Lexington.
- 15th District, L. J. Schofield, Warrensburg.
- 16th District, T. B. M. Craig, Nevada.
- 17th District, Guy Titsworth, Sedalia.
- 18th District, W. L. Allee, Eldon.
- 19th District, W. A. Clark, Jefferson City.
- 20th District, W. C. Gayler, St. Louis.
- 24th District, T. W. Cotton, Van Buren.
- 26th District, J. A. McComb, Lebanon.
- 27th District, J. C. B. Davis, Willow Springs.
- 28th District, T. O. Klingner, Springfield.

Dr. Spence Redman, Platte City, moved that the reading of the minutes of the last annual meeting be dispensed with and adopted as published in THE JOURNAL. Seconded and carried.

Chairman McComas read the report of the Executive Committee, as follows:

Report of the Executive Committee

The Executive Committee has held seven meetings since the last annual meeting of the Council.

At the 1926 annual session, in St. Louis, the Executive Committee recommended establishing a budget system and auditing our accounts by certified public accountants, and the Council approved these recommendations. The House of Delegates also approved these recommendations.

The Executive Committee, at its meeting on June 19, 1926, employed Kessler, Cartall & Company, certified public accountants, St. Louis, to audit the books of the Association for the years 1924, 1925 and the first six months of 1926. This audit was completed in August and published in the October, 1926, issue of THE JOURNAL. At this meeting the committee established a budget of the expenses of the Association for the remainder of the year 1926.

The meeting of August 10, 1926, was a called meeting of the councilors with the Committee on Health and Public Instruction held at Jefferson City for the purpose of discussing proposed amendments to the Medical Practice Act and their introduction in the 1927 session of the legislature.

At the meeting of August 18, 1926, the Committee authorized the Committee on Health and Public Instruction to employ Mr. J. Henry Caruthers, St. Louis, former Assistant Attorney General, to take charge of the bills to be introduced in the legislature at our request for a fee of \$2,000 and expenses. At this meeting a postgraduate committee was established, as recommended in the Executive Committee's report last year, composed of five members whose duty was to send members of the Association to councilor districts and county societies for the purpose of delivering lectures and holding clinics when feasible.

On November 17, 1926, the Executive Committee met with the Committee on Revision of the Constitution and By-Laws and spent the entire day studying the proposed Constitution and By-Laws recommended by the American Medical Association. Each section in the proposed form was read and discussed and the result of these deliberations will be transmitted to you by the Committee on Revision of the Constitution and By-Laws.

At the meeting held in Jefferson City, January 12, 1927, your committee authorized the employment of Kessler, Cartall & Company to audit the books of the Association for the last six months in 1926 and to make a condensed statement of the financial affairs of the Association for the entire year 1926. This was done and the report published in the April, 1927, Journal.

On January 12, 1927, the Executive Committee held their second meeting with the Committee on Health and Public Instruction. The officers of the State Board of Health, the physician members of the legislature and others interested in

the passage of the amendments to the Medical Practice Act were invited to attend. Altogether there were twenty three persons at the meeting.

At this meeting the amendments to the Medical Practice Act were put into form for introduction and Dr. Guy B. Mitchell, Branson, Senator from the 19th District, was requested to introduce the bill in the Senate and Dr. Charles H. Wallace, St. Joseph, a representative from Buchanan County, was requested to introduce the bill in the House of Representatives. The amendments were approved for introduction practically as submitted to the county medical societies, there being only one or two minor alterations.

A proposition from the State Board of Health that a separate bill be introduced providing for reciprocity and the acceptance of the certificate of the National Board of Medical Examiners was not approved, this having been provided for in the original bill.

At this meeting another bill was approved for introduction making it a misdemeanor for a medical school to issue a diploma to any person who has not attended the required course of instruction, and also making it unlawful for a person to accept a diploma without first having attended the required number of courses. We also approved the introduction of a bill by the Association for Criminal Justice, creating a Department of Mental Diseases in the Board of Eleemosynary Institutions. The Committee also approved the introduction of a bill providing for the free care and treatment of indigent crippled children at the hospital of the State University at Columbia. Several other bills were submitted to the committee for approval which were proposed by organizations not related to the medical profession, but the committee declined to accept any responsibility for the introduction or passage of these bills.

At the meeting held in St. Louis, April 8, 1927, which was the final meeting before the annual session of the Association, the Committee spent the day going over the work of the Committee on Health and Public Instruction as reported by the chairman, Dr. H. E. Pearse, Kansas City, and examining the proposed Constitution and By-Laws for possible improvements in the provisions. A proposition from the President of the St. Louis Medical Society, Dr. C. A. Vosburgh, that provisions be made for junior members was approved. You will hear this amendment introduced when that section comes up for discussion. Junior members are those who apply for election soon after graduation and pay one half the amount of the regular State dues. Such membership is limited to the first two years after graduation when junior members automatically become full active members and pay the regular amount of dues.

At this meeting a proposition was submitted by one of the state senators suggesting that the chiropractic bill be made the subject of a referendum. Your committee thought that this matter should be brought to the attention of the House of Delegates and, therefore, took no action.

A committee of the American Medical Association has been endeavoring to ascertain the number of incapacitated and indigent physicians in the country with a view of making recommendations for their relief. Dr. George H. Simons, Chicago, is chairman of this committee and the chairman of your Council is a member. Through the office of secretary we found seven physicians in Missouri who were incapacitated through physical or mental inferiority.

Five of these are members of our Association, two non-members. Four are self-supporting, or could be supported by relatives, leaving three requiring assistance. One of the physicians needing assistance was accepted as a guest by the Physicians' Home in New York, but after arrangements had been made for his transportation to that institution he declined to go to the Home. The other two physicians needing assistance also declined to leave home for assistance in any institution. Since the investigation began, one of these has died.

The question was discussed by your Executive Committee as to whether our Association should establish a fund which could be used to extend aid to our members who might become incapacitated and who are financially unable to provide for their care.

A. R. McCOMAS, Chairman.

Dr. T. W. Cotton, Van Buren, moved that the report of the Executive Committee be adopted and constitute the basis of the report to the House of Delegates. Seconded and carried.

The Treasurer, Dr. G. W. Hawkins, Salisbury, read his report together with a statement of funds on deposit in the bank, a certificate of deposit from the bank, and copy of a \$20,000 bond by individual directors of the bank.

Dr. D. A. Barnhart, Huntsville, moved that the report of the Treasurer be received and referred to an auditing committee. Seconded and carried.

Dr. Spence Redman, Platte City, moved that the report of the Secretary be received and referred to the auditing committee. Seconded and carried.

The Chairman appointed the following on the auditing committee: Dr. D. A. Barnhart, Huntsville; Dr. T. J. Downing, New London; Dr. T. W. Cotton, Van Buren.

CHAIRMAN McCOMAS: In the report of the Executive Committee mention was made of a letter received from a senator asking that the State Medical Association take up the question of a referendum on the chiropractic bill. I wish that Dr. Pearse were here. He might more fully than anyone present give you the contents of the bill. Of course, that matter will be referred to the House of Delegates for action, but I thought perhaps you would like to hear something more definite about the chiropractic bill. Briefly, the bill requires, first, a preliminary high school education. They then enter a chiropractic school which requires three years of nine months' actual attendance. The bill also limits the chiropractor's activities or treatments to the use of the human hand on the human spine. That eliminates a lot of other things in the way of electricity and the like that they are accustomed to use.

Another bill, noted in the Executive Committee's report, makes it a misdemeanor for any school to furnish a certificate of graduation to any student who has not filled the requirements of attendance, and also makes it a misdemeanor for the student to accept a diploma and make it a basis for application for a license.

Whether we would rather fight another bill through or what success we might have in a referendum is all speculation, but that is the way it stands now. I tell you those things that you may give them some thought. You will hear more fully from Dr. Pearse. That is the outline of the situation as it now exists. The bill has been signed by the Governor and will, in due course of time, become a law.

The Secretary made the following report on county societies not functioning properly:

St. Clair County has ceased operating. Efforts, to date unsuccessful, have been made to unite St. Clair with Henry County.

St. Francois County. The Secretary of the County Society has left the county, leaving no records of dues paid.

Linn County. Three or four members are in arrears and have been dropped. Request has been made by the secretary of the county society to permit these members to come in on payment of current dues.

Dade County. Extinct.

Worth County. No members.

It was voted that the report be received and referred to the Councilors.

There was discussion on the matter of dropping, suspending and reinstating delinquent members by Drs. Barnhart, Breuer, Goodwin, Conrad, Gayler, Hawkins, Downing, Allee.

No action was taken.

Dr. T. W. Cotton, Van Buren, submitted the report of the Committee on Publication, as follows:

Report of Committee on Publication

The Committee has to report that THE JOURNAL for 1926 is the twenty third volume, the first publication having been started in 1904. There were a total of 460 pages in THE JOURNAL for 1926 made up of 78 original articles, 65 editorials, 104 county society proceedings, the proceedings of the 69th annual meeting of the State Association, councilor district meetings, Washington University Medical Society, Kansas City Academy of Medicine, Women's Auxiliary and other societies, and a considerable amount of miscellaneous matter.

The books sent to the editor for review were, as usual, distributed to medical libraries conducted by the component county medical societies. The resume made of the total number of books sent to the libraries from 1920 to 1926 follows:

Report on Books Sent to Libraries from 1920 to 1926 inclusive.

Library	No. of books sent	Prices given on	Prices given on	Total value of books on which prices were given	No. not reviewed
St. Louis	337	140	197	\$1,146.95	79
Kansas City	393	137	256	1,632.10	58
Columbia	13	10	3	17.50	10
	743	287	456	\$2,795.55	147

The total amount of advertising carried in THE JOURNAL during the year was \$8,862.87; subscriptions, \$55.00.

M. A. BLISS,
C. B. FRANCISCO,
T. W. COTTON, Chairman.

Dr. Cotton moved that the report be referred to the Auditing Committee. Seconded and carried.

Mr. J. W. Becker, Executive Secretary of the Missouri Tuberculosis Association, presented a plan for cooperation of the Missouri State Medical Association with the Missouri Tuberculosis Society to stimulate greater interest in the work throughout the state, to enlist more general cooperation of the medical profession and to set in motion machinery that will result in the early discovery of tuberculosis cases.

It was moved by Dr. W. C. Gayler, St. Louis, seconded by Dr. W. L. Allee, Eldon, that the matter be referred to the incoming Council. Carried.

CHAIRMAN McCOMAS: We will now have reports of the Councilors.

Reports of Councilors

DR. CONRAD (2nd District): I feel that our District has been as active as at any time previous. I am very happy to say there have been no liability suits. I think we feared more suits after the compensation law came into effect. As far as the activities of the society are concerned, they are well up to the standard. Our society is doing as good work as it ever did and is having regular meetings.

DR. DOWNING (7th District): We are getting along fairly well. I don't believe that I have anything particular to report.

CHAIRMAN McCOMAS (9th District): The counties in my district are doing about as they have done for the past several years. I don't know of any suits being filed or of any unusual happenings. I would say that conditions are very good.

DR. BARNHART (10th District): We have, I believe, one of the best working societies in the state in Randolph County. We usually have a membership of anywhere from fifteen to twenty five at each meeting. We have missed one meeting in four years. We have adopted a little different plan this year. Our president and secretary have made out a year's program; they have selected the subjects and have selected the leaders for papers and the leaders for discussion each month. We have attempted to form a tri-county medical society with Macon and Monroe counties. I have three counties in my District. We have not quite completed that arrangement. Macon County formerly had about thirty or forty physicians, but there are only about eleven there now. They don't meet very often, and it seems there is a little misunderstanding and they have not agreed to come in with us. We have practically completed an arrangement with Monroe County, however. We have sent the papers for them to sign. We thought we could bring it before the Council, but I don't believe it has been completed. We are having interesting programs every month in Moberly in our county society.

DR. REDMAN (12th District): I think conditions in the main are fairly good. All the societies are alive and all are functioning, some more efficiently and a little more actively than others. My own county society I think is doing remarkably good work, considering the small membership. During the past year we have had at least two thirds of the membership present at every meeting. I think that is a record of which to be proud. Clinton County has functioned to a certain extent, but has not been holding as many meetings as it really should. I feel guilty for not having visited Clinton in the last year, but I really feel I could throw the blame upon the officers of the society, because I volunteered to go and they wouldn't invite me. They wouldn't let me know when they had a meeting.

Daviess County, until this last fall, had not had a meeting for eighteen months. I met with them and they had a good meeting and reorganized; I understand they have had one meeting since that time. They have been a little disrupted over some conditions in the society. They feel that a man outside the society has been doing things that are not right, and some of the members of the society have been upholding

him while others have been upbraiding him. Because of that I think the condition is not as good as it would be if that matter were settled.

Caldwell is doing excellent work. I visited them last fall and had a most excellent meeting. Ray, I think, is also functioning quite well. Clay County, the largest society in the District, has for a number of years done very excellent work.

The conditions at Excelsior Springs, that being a national health resort, are a little different from those of probably any other town or city within the state. The fact that thousands of people come there throughout the entire year for recreation and for the purpose of regaining their health from the waters of the springs, taking treatment, and things of that sort, makes it a very fertile field for the irregular. There are members of every cult you can think of there, and they are doing their best to fleece the people.

There are two large institutions at Excelsior Springs, one the Ball Health School which I think is probably the most flagrant violator of ethics and morality and everything of that nature that I know of. At the order of the Executive Committee of the Council I visited Excelsior last week and I found conditions quite bad. The State Board of Health revoked Ball's license, but the institution is still going and his runners are meeting the trains with a taxi labeled, "The Ball Health School." I suppose they are soliciting right out in the open. Out of that grew certain rumors and charges that members of the Clay County Society were guilty of some irregularities in the way of soliciting business through solicitors, and that some of the members had consulted or had operated at these irregular institutions. I talked with a great many of the more prominent members of the Clay County Society while there, and the opinion of all these men was that we had better leave this matter of the Clay County membership and they would correct it. There are a number of fine men at the Springs, the community is full of them, and I am sure it will be taken proper care of.

There are just two things in regard to these irregular conditions at Excelsior that I should like to suggest to the Association for consideration. One of them is that possibly some educational work would do good there in the way of public health meetings to instruct the people in what is really legitimate, regular medicine. Then it is possible that these institutions and a number of these men who are irregulars are violating the national law, and by investigating the matter we might be able to have the government bring fraud charges against them and perhaps stop the conditions. If something is not done with regard to the irregular practitioners who are soliciting and gobbling up a big portion of the transient business, which is made up largely of farmers and people from the smaller towns throughout the states of the Middle West, people who are not well versed in what a practitioner of medicine should be, I fear the Springs will be greatly damaged in reputation and that it may have some bad effect upon our county society. If there is any manner in which we might influence the U. S. Government to investigate the matter and clean it up, as they have done at Hot Springs, I think it would be advisable.

Dr. BELLOWS (13th District): The 13th District consists of Jackson County alone. The County Medical Society is well organized and functioning, and is reasonably prosperous. It has increased in membership during the past year. It is meeting in its new rooms that are specially equipped and furnished in the Medical Arts Building; one of the most pleasing features is that the library has increased and is being used more than ever before. Conditions are reasonably satisfactory.

A matter was referred to me by the Secretary, at the request of the Executive Committee, with instructions that I investigate and report to the Council. Last January, in one of the Sunday editions of the *Kansas City Journal-Post*, there appeared a rather flamboyant article about a criminal who had been cured by his doctor by means of an operation. There was a picture of the criminal, a description of his crimes, what the doctor said he thought could be done with him. The treatment was spinal puncture, and it resulted in a cure of the man and the hope that he would be a useful citizen. The doctor's name was many times repeated. It seemed to bear many of the features of flagrant advertising.

The Jackson County Medical Society has machinery for investigation of these cases; it has a board of censors. It seemed rather presumptuous for me to investigate personally, so I took the matter to the Executive Council of the County Medical Society, who referred the matter to the board of censors, with instructions to investigate and to report at the next meeting of the Council, which was last Tuesday night. The board of censors had one meeting with the accused, and failed to come to any conclusion. They said they would not be ready to report until the next meeting of the Council, which is next Tuesday night. I report that the matter is under careful investigation, and I will report as soon as any result has been reached.

Dr. RYLAND (14th District): I think the District is doing about as well as could be expected under the administration of its present Councilor. We have three societies. We have a society recently organized. We have had two splendid meetings. We tried to arrange for the postgraduate meeting, but we failed.

Only one unpleasant matter has come up in my District, and that occurred in my own county. One of our members,

a very ambitious young fellow, had been writing some letters to patients over the county telling them what he could do. He was willing to admit that he could do a good deal for them. We suspended him. His defense was that his letter was patterned after a good many letters that had been handed him by patients who had received them from Kansas City. That was the only defense the gentleman had.

Dr. SCHOFIELD (15 District): The 15th is doing about the same. We have two or three clinics a year. We have been a little crippled in our meetings. The organization of the component societies should always be active, but that depends, of course, upon the secretary and treasurer and how active they are. Johnson and Cass are doing moderately well and I think hold up year in and year out.

Dr. CRAIG (16th District): Vernon and Cedar counties, which are united now, are doing very good work. I think they are functioning nicely. We had the misfortune to lose our good friend, Dr. Willson, First Vice President of our Association, this year.

Bates County has a good organization and is having regular meetings. We can get no cooperation whatever from Barton and Dade counties. As our friend Ryland suggests, perhaps we need a new Councilor.

Dr. TITSWORTH (17th District): Things in the 17th District are about as they were. The societies of Pettis, Henry and Benton are doing good work, having regular meetings, well attended, with good programs. St. Clair County has not been organized for the past two years. There are very few members in it. An effort has been made to get those men to join with Henry County. The Henry County Society is perfectly willing to take them in, and letters have been written to each one of the men who formerly belonged in St. Clair, but as yet no response has been received. We are hopeful of bringing them back into the fold.

Dr. ALLEE (18th District): The counties of the 18th are functioning fairly well, with the exception of Morgan County. They are not organized, but they have two or three members who pay their dues every year to the State Association.

Dr. CLARK (19th District): Most of the activities of the 19th District are centered in Cole County. The three counties of Gasconade, Maries and Osage, which are combined into one society, are not active. They are all out in the woods but they are getting along reasonably well and the men are doing all right though it is hard for them to get together. I don't have any trouble with them except to fight them off. They all want to join the Cole County Society. There are several reasons for that. Roads from all their homes lead to Jefferson City; they don't lead cross-country, and they can't get to their own towns nearly so easily as they can get to Jefferson City. They all want to join there. We have a lot of trouble keeping them out. Outside of that, everything is harmonious and is going along first rate.

Dr. GAYLER (20th District): We have had a rather wild time in St. Louis. You all remember that last year the official spokesman of the St. Louis delegation accused all of the officers of the Society not only of incompetency, but of dishonesty, and we just had a terrible time at the last meeting. Since then we have had an election and there has been a complete change of administration. You met our new president this morning, who not only wants to do what is right, but under all circumstances wants to cooperate with the State Association. That is not only true of the new president but of every member of the delegation. It has been proven that the attitude of the delegates last year was entirely mistaken; they did not intend to get anywhere, they just simply made an immense mess of everything.

Beside that, the St. Louis Society has just finished a new building. They spent somewhere between \$200,000 and \$300,000 on it—and it is not all paid for. But it is a beautiful structure and the men are so very, very prosperous in St. Louis that it doesn't seem to matter whether they have paid for it or not, they will very easily pay for it whenever they feel like it.

Dr. COTTON (24th District): The 24th District is composed of Ripley, Shannon, Carter, Stoddard, Butler and Wayne counties. Ripley County has only two physicians in the county. They are located at the county seat. It never has been organized. We have made an effort several times to try to get them with several of the adjoining counties, but we have not succeeded. Butler County has a good society and is functioning pretty well. Usually Butler County has very good meetings. Stoddard County has a fair society. Wayne County has not been doing so much this year. It seems they have too few physicians to function in some of those counties. Shannon has had one or two very good meetings at which we have had visitors from some of the neighboring counties. In the last six or eight weeks when we had planned to have visitors our roads were bad and of late we have had the high waters that have prevented our getting together at all. We have made two efforts to have our meetings in Carter or Shannon in the last four or five weeks, but we have been unable to do so.

Our secretary moved away and we have not been able to get our fellows together even to elect a secretary. The situation down there is such that I think we are going to have to have more territory or more doctors. Shannon County has four doctors that are working and one physician who is superannuated. Carter County has four doctors that are working and one who does a little special work; he is more

than seventy five years old. I don't know how many doctors Wayne County has but two of them have been members of this society for a good many years and two of them are over seventy five years old. They have expressed the desire to withdraw from the society on the ground that they have been in the harness long enough and they ought to rest from their labors in a financial way, so far as this society is concerned. We have in the 24th District not fewer than five of those old doctors. That is a pretty live question. It has been suggested that those men really ought to be put on the honor list. It just occurs to me that maybe that would be the proper thing to do. Some of those doctors have been in this society fifty years and I think their request to be excused from paying dues is not an unreasonable one. They are still in fairly active practice for their age, but I would be glad to have an expression from this Council as to the wisdom of dealing with that class of men in that manner. I believe it would benefit us to have the Council's ideas about relieving those men from the burden of their dues.

Another thing we have under consideration is consolidation of Reynolds with Carter-Shannon. That is a four doctor county. It is a pretty good sized county. We had planned a meeting to discuss the wisdom of uniting Carter, Shannon, Reynolds, and possibly Wayne. Reynolds is not in the same Councilor District. Those are things that are under consideration just at this time, and I believe can be worked out so they will function better than they have been functioning in the immediate past.

On the whole, I think that the District is just about as it has been. I don't think we have retrogressed much nor progressed very much.

DR. McCOMB (26th District): I guess I am the baby of this Council. You can hardly expect me to talk about it. I am "subbing" for a mighty good Councilor, and I am going to ask him to report for this District, Dr. Breuer.

PRESIDENT BREUER: I want to say to you gentlemen that Dr. McComb has been Councilor this year and has made an excellent one. We had a meeting of the Councilor District about two weeks ago over in Waynesville. All you fellows in southern Missouri love to eat. Cotton, this will help you. Dr. McComb went to Waynesville to the Baker Hotel, and made arrangements for us to have a meeting there. We called together the doctors in the District, and I think there were twenty one or twenty two of the boys there that day. We had a fine dinner, and then we repaired from there to the Court House and had a most excellent meeting. I don't think I have ever seen a meeting in our District where there was as much accomplished as there. Men went away from that meeting saying that it was good for them to have been there and they were going again. We are going to have another meeting like that in the near future. We are going to have a meeting of all the doctors in the Councilor District, because, as Dr. Cotton has said, there are so few in each one of these counties.

You remember I reported a year ago how few doctors there were located in our county; they are getting fewer all the time and we are getting older. I am about the youngest man down there, outside of Dr. Ccomb, and that is something to think about.

DR. DAVIS (27th District): I have been listening intently to the reports. We have not had a fuss in our society for a long time, and sometimes I think maybe if we would stir up a little fuss we might get a little more enthusiasm. This District comprises Douglas, Howell, Oregon, Texas, Wright and Ozark. The Howell-Oregon Society meets and does excellent work. So does the Texas Society and the Wright-Douglas Society. The Ozark doctors are affiliated with one or the other of these societies. They do not have an organization. We attempted an organization over there and I attended a meeting, but they have so few doctors in the county that it cannot be done. There are probably four doctors in the county and two of those find it more convenient to attend some other county than their own. Consequently, that leaves only about two to organize. We induced them to come over and worship with us, and those that are not near we induced to go over to the Wright-Douglas County. We take care of the unorganized county in that way.

We have two doctors in the Howell-Oregon County Society that are about seventy five years of age, and we have them on the honor list. I don't know how we got them there, except that we just voted them there. Whether we had any right to do it or not, I don't know, but we did, and we made them feel good. I believe they are better members now than they were before; they appreciated our action. One of them has been an Honor Member for some two or three years. He is seventy nine years of age. The other is about seventy five, and we just recently voted the honor to him that he had served long enough.

We held a postgraduate meeting in which our secretary assisted us in getting good material and we had a most excellent meeting. Dr. Cotton was present and Dr. Ridge and Dr. Goodwin furnished us with the men who were the fire-works of the meeting. We had a most excellent meeting day and night. We are very sorry that our distinguished President, Dr. Breuer, was unable to get there on account of bad roads, but he was kind enough to let us know that he was snowbound and could not make it.

DR. KLINGNER (28th District): Dr. McComb said he was

the baby of this organization, but I want to tell him that I am the baby. I represent the 28th District composed of nine counties. Most of them are doing quite well. Dallas County has only four or five doctors and only one or two of them pay their dues. In Polk County they functioned fairly well until their secretary died, and since then they have not done any work at all to amount to anything. I have talked with the Secretary of the State Association with regard to organizing two counties into one society. Some of the doctors don't think it would be advisable.

Taney County is an excellent county. Dr. Guy Mitchell is the whole society, and he is a good one; he is always on the job. He takes care of all the work and looks after the secretary's work. I don't think that county holds any meetings at all.

Barry County holds its meetings on paper. The president and secretary get together and make the report and send it to the State Association. That is all there is to Barry County.

Lawrence-Stone has a good society, meeting four times a year with an excellent program. I met with them in December and they had a splendid meeting. Only one or two members, I believe, were absent.

Webster County is also functioning. It holds about four meetings a year. The programs are good, and they are doing fine work.

Greene County has always been active. They generally have a program planned a year in advance and know who the speakers are to be; they have time to prepare their papers and always have pretty good meetings. We are undertaking a task now that I can't tell you the termination of, but a few months ago this Iona outfit from Kansas City came down there, and we took the matter up with the retail merchants. They had big advertisements in the paper which were not true. We took it up with the retail merchants and also with the organization known as "Honest Advertising." We went to the editor of the paper and laid the matter before him, and he promised us that he would not accept the advertisements of these people because the retail merchants told him that if he did they would not advertise in the paper, they would not have their advertisements alongside of fake advertisements. So far he has not accepted the advertisements.

We also sent some parties to investigate this, and they found that the whole apparatus can be made for \$3.95. They sell it for \$65. All the parts can be bought at the ten-cent store and assembled in about a half hour. We have appointed a committee and are going to try to iron the matter out. We are going to do it on the grounds of fake advertising, and I believe the retail merchants will cooperate with us.

On the 28th and 29th of October, in conjunction with the Southwest Missouri Medical Association, we had a Councilor District meeting. The Committee for Postgraduate Extension Work furnished us two speakers: Dr. Gayler was there on the 28th and gave us an excellent paper, and he was well received and had a good audience, about 150. I have heard a great many comments on that paper. Also Dr. Ellis Fischel's paper the day previous was very good, but he did not have quite the audience Dr. Gayler had. As a whole, the 28th District is doing fairly well.

DR. TIMBERMAN (11th District): I don't know what to say about Chariton County. I am too far away for them to let me know when they are having meetings.

I want to say especially for Linn County that several months ago we were having trouble there. They had a lot of local trouble and different towns in the county felt that they were not getting a square deal. Perhaps the best county in my District is Linn County, really.

Livingston has a bunch of nice fellows, but they are not meeting very regularly.

Carroll County is having its troubles with itself.

CHAIRMAN McCOMAS: The next item is expense of the Councilors. Those having had expense attending meetings in their Councilor Districts (that does not include the expense of attending this meeting) will please make out their expense accounts and hand them in.

If there is nothing further, the meeting will stand adjourned.

DR. BARNHART: We did not complete the matter about the referendum, did we?

CHAIRMAN McCOMAS: The time for the meeting of the House of Delegates has arrived. I don't suppose Dr. Pearse wants to make two speeches on the same subject. We can hear that in the House of Delegates meeting.

The meeting adjourned at three o'clock.

Wednesday, May 4, 1927

The second meeting of the council was held

Wednesday, May 4, 1927, in the Probate Court Room, Court House, Sedalia, Dr. A. R. McComas, presiding.

CHAIRMAN McCOMAS: Gentlemen, the newly elected councilors will please come forward and be seated. The Secretary will call the roll.

Roll call.

Minutes of previous meeting were read and approved.

CHAIRMAN McCOMAS: The next order of business is considering of deferred reports. Are there any? There seems to be none. So we will pass to the report of the Auditing Committee, Dr. Barnhart.

Report of Auditing Committee

DR. D. A. BARNHART, Huntsville: We went over the books as carefully as we could in the time we had. We spent about three hours on Dr. Goodwin's books and also those of the Treasurer, Dr. Hawkins. We checked up everything that we could, and submit the following report:

We, the Auditing Committee, have examined the books of the Treasurer and Secretary and find them correct. This is signed by Drs. Barnhart, Downing and Cotton.

Gentlemen, I have been on the Auditing Committee for years. It took us longer because we wanted to familiarize ourselves with the new system of bookkeeping Dr. Goodwin has installed. He has installed a system of bookkeeping and I want to commend the work. It simplifies the work and makes it very much more correct. I also want to say this report wasn't necessary, as the auditing company had gone carefully over the books and wherever they found a little error they made a blue mark or red mark, and we found very few of those marks. They are nicely kept and I want to commend Dr. Goodwin on the system of bookkeeping. I think it simplifies things very much.

CHAIRMAN McCOMAS: The next order of business is the election of the Treasurer of the Association. Nominations are now in order.

DR. J. H. TIMBERMAN, Chillicothe: I nominate Dr. G. W. Hawkins, of Salisbury.

On motion nominations were closed and it was moved, seconded and carried unanimously that the Secretary be instructed to cast the ballot of the Council for Dr. Hawkins for Treasurer.

CHAIRMAN McCOMAS: Dr. Hawkins is unanimously elected. Next is election of Secretary of the Association.

PRESIDENT BREUER: I desire to place our distinguished Editor-Secretary, Dr. E. J. Goodwin, in nomination for Secretary of the Association.

DR. J. H. TIMBERMAN, Chillicothe: I desire to second that and move the nominations be closed and the President be instructed to cast the vote of the Council for Dr. Goodwin as Secretary.

PRESIDENT BREUER: It has been moved and seconded that the nominations be closed and that the retiring President cast the ballot of the council for Dr. Goodwin for Secretary-Editor for the ensuing year.

Vote was taken and the motion was carried unanimously.

PRESIDENT BREUER: Gentlemen, I will cast the entire vote of this Council for Dr. Goodwin for Secretary-Editor of this Association for the ensuing year.

CHAIRMAN McCOMAS: Gentlemen, Dr. Goodwin is duly elected.

The next order of business is the election of Chairman of the Council. Nominations are in order.

DR. W. L. ALLEE, Eldon: I nominate Dr. McComas as Chairman of the Council. The motion was seconded.

PRESIDENT BREUER: I move that the nominations be closed and the Secretary be instructed to cast the entire vote of the Council for Dr. McComas as Chairman of the Council.

Vote was taken and the motion carried unanimously.

SECRETARY GOODWIN: Mr. President, I take pleasure in casting the entire vote of the Council for Dr.

McComas as Chairman of the Council for the ensuing year.

CHAIRMAN McCOMAS: Gentlemen, I thank you very much for this honor, this invitation to work, and I am hoping that one of these days you will find somebody else.

CHAIRMAN McCOMAS: Election of the Executive Committee.

DR. J. H. TIMBERMAN, Chillicothe: I should like to place Dr. A. R. McComas, Dr. W. H. Breuer and Dr. Gayler in nomination for the Executive Committee. The motion was seconded.

CHAIRMAN McCOMAS: You have heard the nomination of Dr. Timberman. Are you ready for the question? The motion was carried unanimously.

CHAIRMAN McCOMAS: That is the last order of business unless some gentleman has something to bring before the Council.

PRESIDENT BREUER: I think it would be well for the Chairman of the Council to get in communication with Dr. Nifong and explain to him that under the new By-Laws adopted, it will be necessary for him to appoint all the committees which must be done after a reasonable time and that they will have to be submitted to the Executive Committee of the Council for their approval, because the law says they shall be approved by the House of Delegates and of course the House of Delegates elected him this morning and therefore he couldn't get his committees in to be approved. The By-Laws further say that during the interim between the meetings of the House of Delegates the Council shall act as the executive body of the Association and work for them, so he will have to submit his appointments to this committee for their approval.

CHAIRMAN McCOMAS: The newly adopted Constitution and By-Laws say that they shall be submitted to the House of Delegates and of course just putting it into effect right now it would be impossible for a man to make a sensible nomination on those committees and submit to the House of Delegates, so this is the only way that that can be carried out at this time.

DR. BREUER moved that the Council authorize the Executive Committee of the Council to hear the nominations of the President and act upon them, not to approve, because you don't want to order them to approve, to hear the nominations of the President to the various committees and act upon them for the Council. The motion was seconded and carried unanimously.

CHAIRMAN McCOMAS: Is there anything else? If not, a motion to adjourn is in order.

DR. J. H. TIMBERMAN, Chillicothe: I move we adjourn. The motion was seconded and carried unanimously.

The meeting adjourned *sine die*.

REPORT OF THE COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION

This committee has the duty of attending to legislation affecting the Association. This is in addition to its other public health work. At the close of the biennial period of 1925 the legislative work was in bad condition. We had tried in every way to advance our needed legislation but had not succeeded. On the other hand, those whose bills we opposed had likewise made no headway. We were at stalemate. We were at dead fall and had been for four years. The long battle that began with the removal of the word "reputable" from our law, that took us through a referendum fight and again to defeat, that carried us through another stormy session of the legislature, found us again restored to the "reputable" class with our finances exhausted by the expenditure of many thousands of dollars for the preservation of our professional honor, but with the fighting spirit of the Association undimmed.

It was found that many persons who were entirely unfit for the grave responsibility of practice, and whose education had been irregular, incomplete and insufficient, were some-

how appearing in various parts of the state with licenses to practice duly signed by our state board. The matter came to an issue when the *Kansas City Journal-Post* and the *St. Louis Star* exposed an amazing state of affairs. An awakening of the board followed and the matter of the revocation of these questionable licenses to practice is now in the courts. We thus found a new group against us. They were the "diploma mill group," and we found their friends in high places and in both political parties. This was a formidable addition to the group we had fought so long. We had previously had the Christian Scientists against us, opposing every effort to strengthen the enforcement clauses of our Medical Practice Act as they feared prosecution for practicing medicine without license. Chiropractors fought us on every turn and were always ready to withdraw their opposition if we would allow them to have any kind of a law under which they could organize. The horde of shady food handlers who desired to keep down financial loss by selling all sorts of bad food, with the employ of children in factories and sweat shops, had always been against our public health laws and our Medical Practice Act amendments. With the diploma mill group added we found ourselves confronting a serious combined opposition. The only solution was so to break this combination that the fight for better things could be won.

The first notable concession was to the exponents of religious belief as a means of disease control. The Catholic Church had its emblems and pilgrimages. The Episcopal Church had its Immanuel Movement. The Unity Society had its cure by faith and prayer, and so had many others. Without mentioning by name any group we proposed this amendment: "Nothing in this Act shall apply to those who heal by prayer, provided quarantine laws and rules are obeyed." This was urged by many citizens. Lawyers high in the counsels of the bar association, bankers and business men of all kinds, asked and demanded this exemption. The committee placed it in our bill, thus ending a fight of twenty seven years. All the groups above mentioned seem appreciative of the exemption. The Scientists have gone out of their way to show their appreciation. Many of our aims of public hygiene and education are in harmony with their practices and they may prove allies where help is needed.

A physician member of the House, and head of an important committee, revised the Chiropractic Bill. It now, as passed and signed by the governor, provides that chiropractic is the treatment of disorders of the human body by manipulation of the tissues of the human spine by the human hand and does not include obstetrics, use of surgical instruments, or the administration of any drugs or medicines. This bill was neither approved nor opposed by this committee. A poll was made of House and Senate at the beginning of the session and an overwhelming majority favored a controlling law of some kind. We left the matter entirely to the Assembly. The bill as passed requires three years of nine months each, preliminary education as high as our own, and an examination by their own board. We informed the House and Senate that we would not appear at any committee hearing nor accept any responsibility for the passage or defeat of the bill.

With these two members of the "Great Combine" off of the list, we have been more successful. We called our first meeting July 7, 1926. This was to seek a plan that might succeed and to choose a member to represent us at the legislature, and a lawyer to draw our bills. We employed Mr. J. Henry Caruthers, St. Louis, whose experience as prosecuting attorney and Assistant Attorney General especially fitted him for the place. It was followed by another meeting, on July 25, of the full committee with the officers of the Association. Then was issued a general call for a meeting of the councilors, officers and committees, which was held at Jefferson City, August 10. At these meetings our bills were read and gradually brought into shape. The views of our members, committees and lawyers were harmonized. The following are the minutes of the meeting:

The meeting of the councilors with the Committee on Health and Public Instruction at Jefferson City, August 10, 1926, was called to order by the president, Dr. W. H. Breuer, St. James, at 9:35 a. m., in the banquet room of the Central Hotel.

Dr. H. E. Pearse, Kansas City, Chairman of the Committee on Health and Public Instruction, read the amendments to the Medical Practice Act proposed by his committee for introduction in the next session of the legislature. The amendments were taken up in order.

Section 7332, Lines 11-14 inclusive, requiring all applicants for license to show evidence of having attended at least four terms of nine months each, and of having received a diploma from some reputable medical college that enforces the requirement of four terms of nine months each.

This question was discussed by Drs. L. C. Chenoweth and Spence Redman.

Dr. E. P. North, St. Louis, moved that the amendment be adopted. Seconded and carried.

Lines 28, 29 and 30, requiring that applicants attain an average of 75 per cent. on all subjects and not fall below 50 per cent. on any subject.

Dr. L. J. Schofield, Warrensburg, moved the adoption of the amendment.

Discussion by Drs. Ralph L. Thompson, L. C. Chenoweth, E. P. North, H. L. Kerr, H. E. Pearse, W. H. Breuer and James Stewart.

The motion was duly seconded and on vote the amendment was adopted.

Lines 45-54, permitting the State Board of Health to accept the certificate of the National Board of Medical Examiners.

Dr. J. S. Gashwiler, Novinger, moved the adoption of the amendment. Seconded.

Discussion by Drs. James Stewart, Guy B. Mitchell, and C. H. Wallace. On vote the amendment was adopted.

Lines 54-61, providing reciprocity.

Dr. L. C. Chenoweth, Joplin, moved the adoption of the amendment. Seconded. Dr. James Stewart, Jefferson City, moved to amend it by striking out the word and figure 25 in lines 60 and 61 and substituting the word and figure 50. Seconded.

Discussion by Drs. H. Unterberg, James Stewart, Guy B. Mitchell and C. H. Wallace.

On vote the amendment was adopted.

Dr. H. Unterberg, St. Louis, moved to amend Line 58, Section 7332, by inserting the word "educational" between the words "equal" and "requirements." Seconded.

On vote the motion was adopted.

Dr. A. R. McComas, Sturgeon, Chairman of the Council, entered the meeting at this point and the president, Dr. W. H. Breuer requested Dr. McComas to take the chair.

Dr. McComas presiding.

Section 7334, Lines 16-23, giving authority to the State Board, through its secretary, to initiate prosecution for violation of the Medical Practice Act.

Dr. E. P. North, St. Louis, moved the adoption of the amendment. There was no discussion and on vote the motion was adopted.

Lines 31-39, rescinding a clause in the present statute licensing persons who have been in practice for 20 years without having graduated in medicine.

Dr. L. C. Chenoweth, Joplin, moved that this clause be rescinded from the statute. Seconded.

Discussion by Mr. J. Henry Caruthers, Drs. James Stewart, L. C. Chenoweth, and W. H. Breuer.

On vote the motion was adopted.

Line 39, rescinding "that all persons who have heretofore matriculated and received their diplomas from accredited schools and medical colleges of Missouri shall be governed and licensed by and under the law in force at the time of such graduation."

Dr. H. Unterberg moved the adoption of the proposal. Seconded and carried.

Section 7338, Lines 1-5, exempting surgeons of the United States Army, Navy and Public Health Service while in the performance of their official duties.

Dr. W. H. Breuer, St. James, moved the adoption of the amendment. Seconded and carried.

Lines 5-11, permitting licensed practitioners of medicine and surgeons in a border state to attend the sick in this state without maintaining an office or place to meet patients.

Discussion by Mr. J. Henry Caruthers, Drs. G. M. Bristow and H. Unterberg.

Dr. E. J. Goodwin, secretary, read and moved the adoption of the following amendment to be inserted in Line 8 between the words "state" and "nor": "Provided that such practitioner comply with the statutes of Missouri and the rules and regulations of the Missouri State Board of Health relating to the reports of births, deaths and contagious diseases." The motion was seconded.

Dr. H. Unterberg, St. Louis, moved to table the motion. Seconded.

Discussion by Drs. R. A. Woolsey and James Stewart.

Dr. Unterberg withdrew his motion to table.

The vote to adopt the motion offered by the secretary carried.

Dr. E. P. North, St. Louis, moved the adoption of the clause exempting the treatment of disease through religious beliefs proposed in Line 8 from the word "nor" to Line 11 to the word "upon." Seconded.

Discussion by Drs. C. H. Wallace and James Stewart. On vote the motion was adopted.

Section 4 of Section 7338, Emergency Clause.

A motion was made that this clause be adopted. Seconded and carried.

Dr. J. S. Gashwiler, Novinger, moved to adopt the proposed amendments as a whole.

Discussion by Dr. Guy B. Mitchell and Mr. J. Henry Caruthers.

On vote the motion was adopted.

Dr. H. E. Pearse, Kansas City, moved that the secretary be instructed to have these amendments, as adopted at this meeting, reprinted and sent to the councilors with the request that the councilor send a copy to each society in his district, urging definite action upon these amendments. Seconded and carried.

Dr. W. H. Breuer, St. James, moved that this body request Dr. Guy B. Mitchell, Branson, Senator from the

19th District, to introduce the bill in the Senate and take charge of its passage in that body. Seconded.

Dr. H. E. Pearse, Kansas City, reminded the members that they had requested Mr. J. Henry Caruthers, St. Louis, to take charge of our legislative program.

Discussion by Drs. L. C. Chenoweth, James Stewart, W. H. Breuer and Guy B. Mitchell.

The motion to request Senator Mitchell to take charge of the bill in the Senate carried.

Dr. W. H. Breuer, St. James, read a letter from the President of the Women's Auxiliary concerning a questionnaire to be submitted to candidates.

Dr. E. P. North, St. Louis, moved that the letter be referred to the Legislative Committee. Seconded and carried.

Dr. M. P. Overholser, Harrisonville, moved that the Chairman of the Legislative Committee take up this question with the chairman of the Legislative Committee of the Women's Auxiliary. Seconded and carried.

Dr. D. A. Barnhart, Huntsville, moved that a vote of thanks be given the Committee on Health and Public Instruction for the splendid service they have performed in formulating the amendments and disseminating the proposals to the members. Seconded and carried.

On motion adjourned.

The following were present at the meeting: Mr. J. Henry Caruthers, St. Louis; Drs. C. S. Austin, Carrollton; Don A. Barnhart, Huntsville; Wm. H. Breuer, St. James; Geo. M. Bristow, Princeton; T. B. M. Craig, Nevada; W. C. Gayler, St. Louis; J. S. Gashwiler, Novinger; O. S. Gilliland, Kansas City; E. J. Goodwin, St. Louis; R. L. Hamilton, Richmond; B. W. Hays, Jackson; H. L. Kerr, Crane; A. R. McComas, Sturgeon; Guy B. Mitchell, Branson; Emmett P. North, St. Louis; M. P. Overholser, Harrisonville; Wm. R. Patterson, Warrensburg; H. E. Pearse, Kansas City; Spence Redman, Platte City; L. J. Schofield, Warrensburg; James Stewart, (Secretary, State Board of Health), Jefferson City; Ralph L. Thompson, St. Louis; John H. Timberman, Chillicothe; Guy Tittsworth, Sedalia; H. Unterberg, St. Louis; C. H. Wallace, St. Joseph; R. A. Woolsey, St. Louis; L. C. Chenoweth, Joplin.

The last meeting was a large and general one in which the councilors, committees and officers of the Association met with many of the members of the newly organized House and Senate, and matters of policy and ways and means were discussed. We then entered the legislative session. We take pleasure in reporting that we have passed every bill and amendment we introduced and killed every bill and amendment we opposed. A memorandum on the session's proceedings follows:

Comment on Bills in the Legislature

H. B. No. 123, introduced by Dr. C. H. Wallace, January 19. This was the bill to amend the Medical Practice Act as follows: (1) Compelling applicants for examination to furnish evidence of having attended throughout four terms of nine months each at a reputable medical college that enforces the four terms attendance and of having received a diploma from such college; (2) requiring candidates to attain an average of seventy five per centum on all subjects examined upon and not fall below fifty per centum on any one subject; (3) providing for reciprocity; (4) empowering the State Board of Health to initiate prosecutions against violators of the law; (5) permitting the State Board of Health to accept, at its discretion, the certificate of the National Board of Medical Examiners in lieu of the Board's own professional examination; (6) exempting persons who treat disease by spiritual means or prayer and physicians living in a border state who treat patients in this state without maintaining an office or appointed place to meet patients and receive calls; (7) rescinding that portion of the present law which licenses, under certain conditions, practitioners who have lived and practiced in one county for a period of twenty years.

This bill was passed by the House of Representatives without amendment on February 15 by a vote of 138 ayes, no noes. It went to the Senate and was recommended for passage and placed on the calendar for third reading on March 4.

In the meantime, S. B. No. 40, introduced by Dr. Guy B. Mitchell, the companion bill to H. B. No. 123, passed the Senate with four minor amendments correcting phraseology and went to the House on February 14. It went to the Committee on Public Health, of which Dr. C. H. Wallace was chairman, and was reported out do pass without amendments on February 17. On February 22, Dr. Wallace called the Senate bill up for final passage. Mr. George F. Heege, a representative from St. Louis County, living in Kirkwood, offered two amendments to the bill. One amendment attempted to define a reputable medical school as one "that enforces the four years requirements." The other amendment provided "that any graduates who hold a diploma from a legally chartered medical school in this state prior to July 1, 1925, shall be eligible to take this examination." In his argument for the adoption of these amendments, Mr. Heege misled Dr. Wallace and the other members of the House by

stating that the amendment merely provided for the protection of a few persons in his district who had innocently entered one of the medical diploma mills during the two years when the word "reputable" was omitted from the statutes and that he would vote for the passage of S. B. No. 40 whether the amendments were adopted or not. When we came to read the amendment as printed we found that instead of providing for those who had graduated during the two years when the word "reputable" was omitted from the statutes it compelled the Board of Health to receive for examination any one who held a diploma from a legally chartered medical school in Missouri at any time prior to July 1, 1925. This, of course, was so destructive to the purpose of the amendments that your committee declined to accept the amendment. The amendment was adopted by a vote of 129 ayes, 1 no. The bill then went to the Senate for concurrence in the amendments and rested on the calendar for third reading.

We then centered our efforts on the passage in the Senate of H. B. No. 123, which you recall passed the House without amendments. We found a number of senators inclined to adopt the objectionable amendments put on S. B. No. 40 in the House but after some vigorous work, including a flood of telegrams and telephones from the districts of those senators who were regarded as favorable to the amendments, we succeeded in passing H. B. No. 123 on March 10 without amendments by the unanimous vote of 32 senators present. The governor has signed the bill and it will become effective ninety days after the adjournment of the session. This was our principal bill and contained seven important changes in our Medical Practice Act.

S. B. No. 96, introduced by Dr. Guy B. Mitchell, on January 20. This is the bill making it illegal for a medical school to issue a diploma without the person having attended the required number of years and to make it illegal for a person to receive a diploma without having attended the required number of years. It was sent to the Committee on Criminal Jurisprudence on January 24 but that committee was inactive until about February 15, so that the bill was not reported out until February 18. It passed the Senate on March 15 without amendment.

The companion bill in the House was H. B. No. 172, introduced by Drs. C. H. Wallace and E. L. Barnhouse. This bill was sent to Mr. Heege's committee on January 24 and reported out do pass on February 24 without amendments. On March 9 it was amended in two particulars and engrossed. It was placed on the calendar for third reading March 12 where it rested as Dr. Wallace preferred awaiting the arrival of S. B. No. 92, which was unamended, rather than take up an amended House bill for passage. On March 15 S. B. No. 96 reached the House and was placed on the calendar for final passage. On March 25 Dr. Wallace called up H. B. No. 172 for final passage and then moved to substitute S. B. No. 96 for H. B. No. 172. This motion carried and the House passed S. B. No. 96 by a vote of 115 ayes, no noes. The governor has signed the bill and it will become effective ninety days after adjournment of the session. These two provisions, one as to colleges and the other as to doctors who traffic in fraudulent diplomas, bring our new regulations up to nine passed.

S. B. No. 201, introduced by Senator Kinney, provides for the surgical and medical treatment of crippled children at the University Hospital at Columbia. The companion bill in the House was H. B. No. 324, introduced by Mr. Jones Parker, St. Louis. This bill carried an appropriation of \$35,000 for equipping the hospital with necessary appliances in treatment and provides for an orthopedist. The Senate bill passed both houses and was signed by the governor. This is number ten passed.

H. B. No. 353, introduced by Mr. Jones Parker, St. Louis, abolished the office of State Health Supervisor and raised the salaries of the president of the Board of Eleemosynary Institutions, the superintendent of the Missouri State School (for feeble-minded) and the assistant physicians in all eleemosynary institutions. This bill was lobbied through the House by a strong body of proponents but in the Senate it met opposition from Senator Brogan and others. Your committee regarded the measure as one of very definite danger to the welfare of the inmates of the institutions and an open bid to revert to political control of all employees in the state hospitals. We therefore opposed the passage of the bill in the Senate and amended it so as to preserve the office of State Health Supervisor and his control of the appointments of all medical employees. We did not object to the increase in salaries.

H. B. No. 345, introduced by Mr. Jones Parker, St. Louis, is a bill introduced by the Nurses' Board which omitted all reference to practical nurses and obstetrical nurses. This, of course, would have deprived physicians of the services of these two important adjuncts in practice. A bill was introduced, S. B. No. 309, by Dr. A. G. Hildreth, Macon, to amend the present nurses' law so as to license obstetrical nurses of two years training, an omission that was discovered in our present law.

We opposed the passage of H. B. No. 345 and any other amendment to the nurses' law. S. B. No. 309 was passed and signed by the governor.

H. B. No. 151, introduced by Mr. Jones Parker, St. Louis,

provided for the licensing of chiropractors. This bill is quite stringent in its provisions, requiring the study of three years of nine months each, including physiology, anatomy, pathology, hygiene and sanitation, and a high school certificate prior to entering chiropractic schools. We did not oppose the passage of this bill, preferring to center all our efforts upon perfecting the Medical Practice Act and preventing a repetition of the medical diploma mill scandal. The bill was passed on March 11 and signed by the governor on March 14.

H. B. No. 124, introduced by Mr. C. L. Woods, Rolla. This bill changed the present law on malicious killing, wounding or torturing of animals by omitting the specifications of horse, mare, colt, mule, etc., in which the word dog does not appear and inserting the words "any animal," then declaring that the word animal shall be construed to mean every living dumb or brute creature which, of course, includes the dog. The bill further provided that scientific experiments or investigations would be permitted when such experiments or investigations were performed under the authority of an incorporated medical college or university of the state. Your committee recognized the limitation of this provision and had the bill amended to read that "nothing herein contained shall be construed to prohibit or interfere with any scientific experiments or investigations." The bill passed the House as amended on March 17 and was on the calendar for third reading on March 25. It did not pass.

H. B. No. 451 provided for every dog in the state to be licensed. It was a long bill and in it we found that the pound keeper would be compelled to kill all dogs not redeemed by the owner within a week. That, of course, interfered seriously with the purchase of dogs from the pound keeper for scientific experiments. We had this bill amended so that if the owner did not redeem the dog within a week any one else could do so, and there was no stipulation in the bill concerning the use of the animal for scientific purposes. The bill passed the House as amended and it is on the calendar of the Senate for third reading. It did not pass.

S. B. No. 218, introduced by Senator McCawley, Carthage, proposed by the W. C. T. U., made it a penitentiary offense for a physician to write a prescription for whiskey without first examining the person for whom the prescription was written or deliver a prescription to any person other than the one for whom it was intended, or sign or deliver a prescription in blank to any druggist. Your committee considered this penalty entirely too severe and would lay honest physicians open to arrest and prosecution for unintentional violations. We, therefore, had the bill amended so as to make the punishment a misdemeanor. The bill died on the calendar.

S. B. No. 335, introduced by Senators Lower and Wamack, provided arrangements for a joint public hospital for a county or city whereby a county or city hospital may be used jointly by the city and county, expense of establishment and maintenance to be shared by both by a hospital tax levied after a vote by the people of the county and the city. It seemed to possess many good provisions but died on the calendar.

Other Measures

H. B. No. 94 would require the teaching of preventive medicine in the state universities and teachers' colleges. It did not pass.

S. B. No. 44 authorized the Osteopathic Board to increase the fee for license from \$15.00 to \$25.00. It passed both Houses and was signed by the governor.

H. B. No. 221 was a new bill regulating the practice of optometry. It was a poorly drafted measure and never emerged from the Committee on Public Health, of which Dr. C. H. Wallace was chairman.

H. B. No. 249, to create a department of mental diseases, was one of the bills introduced by the Association for Criminal Justice. The bill was approved by our committee but never progressed further than recommendation that it do pass.

H. B. No. 274 was another Association for Criminal Justice bill to require the defense of insanity to be specially pleaded. It died on the calendar.

H. B. No. 314 empowered the Board of Charities and Corrections to require private hospitals and sanatoriums to obtain a permit for operation. It died on the calendar.

H. B. No. 89 is the famous anti-evolution bill. You are all familiar with the grand vaudeville act put on in the House February 8 when the measure was made a special order of business and the chamber was crowded to the doors with visitors to hear the debate on the "Monkey Bill," as it was facetiously named. It was killed by a vote of 61 ayes, 82 noes.

H. B. No. 400, introduced by Miss Knell, Joplin, required the teaching of humane treatment of animals as a part of the course of instruction in all public schools. It was approved by the committee and passed the House with several amendments by a vote of 104 ayes, 6 noes. It died in the Senate.

H. B. No. 506 provided for a sanatorium for tuberculous negroes. It died in the committee.

H. B. No. 539 created a new institution for the treatment

of pulmonary tuberculosis in negroes to be known as the Missouri State Sanatorium for Colored People. It died in the committee.

H. B. No. 653 was another nurses' bill, providing for obstetrical nurses. It died in committee.

H. B. No. 679 related to county hospitals and provided for the appointment of five hospital trustees. It was placed on the calendar for third reading on March 18, where it died.

H. B. No. 697 regulated the health, safety and sanitation of cleaning establishments. It was killed by the Committee on Municipal Corporations.

S. B. No. 106 provided for a building for tuberculous, feeble-minded and epileptic negroes under the control of the Board of Managers of the Eleemosynary Institutions to be located at Mt. Vernon. It reached third reading in the Senate but failed to pass.

S. B. No. 151 provided for a system of old age pensions to be granted to persons over 65 years. It died on the calendar.

S. B. No. 238, introduced by Senator Buford, required the labels on all medicinal preparations containing drugs of coal tar origin intended for medicinal purposes and prescribed by physicians to contain the English name of the drug, to specify its dangers and give at least two antidotes. It died in committee.

S. B. No. 437, introduced by Senator Mitchell, would abolish the present Penal Commission and establish a Department of Penal Institutions under civil service regulations. It reached the calendar for engrossment but died with the session.

This gives us a total of twelve acts or amendments that we approved and desired. All were passed. Nine dangerous, or bad bills, which we opposed were killed. Twenty one bills affecting our profession indirectly required our attention. Some twenty five attempted amendments hostile to our Medical Practice Act which were not even allowed to get in the record were defeated.

The greatest of credit must be given to those who did the major part of this work. First, to the members of the Missouri Medical Association who by their increased dues made it possible to employ skilled assistance and pay for it and to call the very large and successful meetings of councilors and committees. These were most beneficial. Next, we must thank our own President, Dr. Breuer, and especially our Secretary, Dr. Goodwin, who has been a tower of strength in counsel, in action, and in matters of reference and record. It is hard to select our friends in House and Senate but Dr. Wallace of the House, steadfast, cool, resourceful and always loyal, with Dr. Mitchell in the Senate, a hard and bitter enemy to his foes, a firm and loyal fighting friend to his allies, I must mention. There are many others. From our attorney, Mr. J. Henry Caruthers, we have had most efficient help. He has been always ready, willing, efficient and always right.

The committee desires to express its gratitude to our governor. From the opening of the legislature, he was prompt in endorsing our bills and amendments. When passed, they were promptly approved.

HERMAN E. PEARSE, Chairman.

SUPPLEMENTARY REPORT ON LEGISLATION, 1927

The Recent Medical Legislation in Missouri

The practice of medicine is a mere privilege on the exercise of which the state may impose such conditions as it deems advisable. The legislature has the power under the constitution to pass all necessary laws to guard the morals, safety and health of the people. The right to practice medicine is not a vested right, nor does such right exist except as authorized by statute.

The law does not undertake to suppress or prohibit the practice of medicine and surgery, nor to prohibit any particular person from practicing as a physician or surgeon, but it simply undertakes to require the necessary and essential qualifications for that purpose.

The General Assembly has the power to enact necessary measures to insure that none but persons possessing these qualifications shall pursue the calling of the practice of medicine. This right is constantly and universally regulated by the general as well as the state governments.

The prime object of the law upon the subject of the practice of medicine is the protection of the people from imposition by persons who are not sufficiently skilled in the profession to authorize them to properly administer medicine and thereby relieve the sick.

Regulations Are Administered by State Board of Medical Examiners

Obviously there must be provided by the state the agency or body with power and whose duty it is to administer and direct the machinery set up by the state for the control and regulation of the art and science of the practice of medicine and surgery. Consequently, there has been created the State Board of Medical Examiners or State Board of Health, as it is designated by the Missouri statutes.

This board is not a court or judicial tribunal; it is merely a governmental agency, exercising ministerial functions. It may investigate and satisfy itself from such sources and information as may be attainable, as to the truth or falsity of charges of misconduct against one holding a license or certificate to practice medicine or surgery, but its investigation does not take on the form or character of a judicial trial. Licenses, however, cannot be revoked except for cause and after the accused has had an opportunity to be heard.

Licensing Function of the Board

In several states the State Board of Health is given the dual function of licensing medical practitioners and enforcing the laws relating to epidemics, contagious and infectious diseases, and vital statistics. Not all the states however lodge this power in one general board. Some provide separate boards for each system of the healing art, as Missouri does.

The licensing power embraces that of, (1) examining and licensing those who show the required qualifications and (2) the investigation of charges of misconduct and the revoking of the licenses of those who are found guilty of such charges.

In Missouri the board may refuse to license individuals of bad moral character, or persons guilty of unprofessional or dishonorable conduct, and it may revoke licenses for like causes and in cases where the license has been granted upon false and fraudulent statements. Unprofessional and dishonorable conduct has been defined and limited by the legislature to be habitual drunkenness, drug habit, excessive use of narcotics, producing criminal abortion and soliciting patronage by agents.

Since the right to practice medicine and the regulation thereof is purely statutory, the terms and conditions of such statutes at once become a very important consideration. This leads naturally to a review of the recent activities of the ministerial and professional medical bodies which bear the burden primarily of the development, progress and enactment of medical legislation and the enforcement of it. Legislation, concededly, is subject more or less to the popular whim, which may be influenced either favorably or unfavorably, for or against.

Review of Recent Accomplishments; Ministerial and Legislative

As you will recall, in 1923 a most unsavory condition in the medical realm was discovered and exposed by the metropolitan press of Missouri. A monstrous and vicious medical diploma mill was found to be operating throughout the United States, with its base in Missouri. Spurious medical diplomas had been and were then being issued and sold promiscuously, without regard to training or qualification. Thus many illegal medical diplomas became extant. Quite a number of the holders of these fake diplomas, by making false statements and other devious means, secured licenses to practice, both in Missouri and other states. The seriousness of the situation called for real leadership and vigorous action. The then State Board of Health was headed by Dr. Emmett P. North. The burden of the activities of any organized body of persons naturally falls on the chief officer. There is no exception to this fact respecting the State Board of Health. Chairman North promptly sensed the grave situation and began to lay out a plan of campaign to eliminate the recipients of these fake diplomas from the profession. He was, fortunately, supported solidly, with one exception, by his colleagues on the board. The secretary, the only salaried member on the board, was indifferent and lukewarm.

Many of the short cut diploma holders were cited to appear before the board and show cause why their licenses should not be revoked. The board was met at once by strong and insidious opposition from the diploma mill and its products. It pursued Chairman North vigorously and relentlessly, tapped his telephone line, threatened him, had him shadowed by sleuths, concocted and circulated false and slanderous stories touching his character, sent him anonymous and signed letters, some with money enclosed, asking favors for prospective applicants for licenses, in the hope of finding him gullible enough to accept the money, instead of returning it with a stinging letter of rebuke as he did.

Yet in spite of all these obstacles the board, following the leadership of this courageous and fearless doctor, proceeded with its hearings, most of which were held in St. Louis almost in the shadow of the most notorious offender in the diploma mill, namely, the St. Louis College of Physicians and Surgeons, headed and operated by Dr. Waldo Briggs, as shown by the testimony in several of the cases tried. Among those cited to show cause by the board was Dr. Waldo Briggs, himself, the Dean of the above named school.

The narrow and meager grounds set out in the Missouri statutes for revoking physicians' licenses made it difficult to find a clear and undoubted legal ground upon which to base a complaint against Dr. Briggs. He was charged, however, with the statutory ground of bad moral character, in that he issued fraudulent licenses and falsified his medical school records as to attendance of students. After a more or less stormy session in hearing the testimony, the board revoked his license. Dr. Briggs never appealed from this action and hence now has no license to practice medicine and surgery in Missouri. Dr. Alexander, Secretary and Manager of the

Kansas City College of Medicine and Surgery, had no Missouri license; hence no similar charge could be filed against him.

A score or more licenses were revoked by this board. Several appealed to the courts but the board was sustained in all except a very few cases. One notorious case, state ex rel. Hurwitz vs. North, et al., criminal abortion, was carried by Hurwitz from the ruling of the board in revoking his license to the circuit court and lost. He then appealed to the supreme court of Missouri and lost again. Then he took it on a writ of error to the Supreme Court of the United States, where he again lost completely and finally. Thus the board was sustained by the courts from the lowest to the highest in the nation.

Two very important cases were instituted directly in the supreme court of Missouri on the request of President North, speaking for the Missouri State Medical Association, namely, State of Missouri, upon the information of the Attorney General vs. Kansas City College of Medicine and Surgery; and State of Missouri, upon the information of the Attorney General vs. St. Louis College of Physicians and Surgeons, the purpose of which was to require said medical colleges to show cause why their charters should not be revoked on the charges of (1), operating for gain, contrary to the laws of their incorporation, and (2), engaging in the unlawful traffic, barter and sale of diplomas for purely monetary consideration, without regard to educational and scientific qualification or fitness, and other less important grounds.

The supreme court appointed a commissioner to hear the testimony and make a finding of facts. About eight days were consumed in taking testimony at St. Louis in the St. Louis college case, and about four days at Kansas City in the Kansas City college case.

The commissioner found that each school was guilty of violating its charter powers, in that they were issuing and selling diplomas without regard to qualification or fitness, and recommended to the supreme court the revocation of their respective charters. It remained then for the supreme court to review the testimony in each case and affirm or reject the finding of the commissioner. In May, 1926, the Kansas City case was argued and submitted to the supreme court en banc. On June 23, 1926, the court handed down its unanimous decision in this case, affirming the commissioner's recommendation, and revoked the school's charter. The court said, in one paragraph, that, "The evidence satisfactorily shows that the respondent (college) has violated the law of its organization in at least two respects; it has been conducted for pecuniary profit, which that law forbids, and it has misused its corporate powers in a manner which threatens serious injury to the public welfare." (285 S. W., 1, c. 984.)

The St. Louis college case was argued and submitted to the court in November, 1926, but has not yet been decided.¹ However, since it is the stronger of the two cases, there can be no doubt but that the court will revoke its charter also. The successful prosecution of these two cases is exceedingly gratifying, since they were the chief offenders in the national medical diploma mill.

Neither time nor space will permit reference to other important cases but suffice it to say that Missouri had found herself down in the dark valley of disrepute in the medical world and could be redeemed only by a wise, courageous and professionally devoted leader and official. These attributes were possessed and exercised without fear or favor by President North. It gives me much personal pleasure to thus eulogize him since my close association and contact with him, both officially and socially, as the legal adviser of the State Board of Health, furnished opportunity to counsel and work with him and observe at close range his private and personal character in a most intimate way. No one man in recent years has done more for the medical profession and the public it serves than has Dr. Emmett P. North. The public little appreciates the real value of these services and perhaps only a small per cent. of the profession has any marked appreciation. However, it was very gratifying to be present and see him elected unanimously by acclamation as President of the Missouri State Medical Association at Kansas City, in May, 1925.

The conditions alluded to furnished ample occasion to test the sufficiency of our Medical Practice Act. It was found to be rather weak and inefficient in several respects and in need of legislative improvement. Consequently an effort was made in 1925 to secure the passage of a bill which was designed to cure several defects, but the bill was defeated by the combined opposition of the Christian Scientists, chiropractors and other interests; a very formidable opposition, when it is remembered that each interest had their friends in both houses of the legislature. Again the foresight and wisdom of President North was exhibited. Immediately following his election to the presidency of the Missouri State Medical Association, he announced his view on the question of the attitude of the medical profession with reference to its position in the public mind. Some very respectable people have referred to the Medical Association as a "Medical Trust"; others believe the profession "too ethical," and so on.

¹ The Supreme Court revoked the charter of the St. Louis College of Physicians and Surgeons on May 23, 1927.

President North declared, at the risk, he said, of being charged with heresy, at the 1925 Kansas City Meeting, that he advocated taking the people into the profession's confidence and tell them of the advance and progress of medical science and its beneficent result to the public by adding years to the average life and bettering the public health generally. In other words, it was his idea to sell the practice of the art and science of medicine and surgery to the people out at the crossroads as well as in the populous districts. The councilors of this Association will remember the fine and interesting meetings held by their president and themselves throughout the councilor districts of the State. At the last election there were seven physicians elected to the legislature, as well as several laymen who openly declared themselves to be friendly to the medical profession. This was a long and important step toward needed medical legislation.

Medical Bills Recently Passed by the Legislature

House Bill No. 123 and Senate Bill No. 40 were companions and identical. The features of this and the medical school bill will not be discussed by me, for the reason that Secretary-Editor, Dr. E. J. Goodwin, has very explicitly and concisely explained them in the April issue of *THE JOURNAL*, which it is assumed you have all seen.

Dr. C. H. Wallace, St. Joseph, a member of the House, introduced No. 172 in the House and Senator (Dr.) Guy B. Mitchell, Branson, introduced the companion bill in the Senate. House Bill No. 172 passed the House without a dissenting vote after some debate, during which time an amendment was offered by Representative Steiner, of Franklin County, by which it was proposed to exempt chiropractors. Mr. Steiner finally withdrew the amendment. Our bill then went over to the Senate.

Senate Bill No. 40, the companion, passed unanimously in the Senate without any trouble whatever and was sent over to the House. The Senate bill was called up by Dr. Wallace within a few days after its arrival in the House and was about to be put on its third reading and final passage when it was unexpectedly assaulted, out of a clear sky, by the diploma mill interests. The amendment was offered by Representative George F. Heege, of St. Louis County. It was argued on the floor of the House that the amendment only sought to provide for the admission to examination by the State Board of Health those students who entered medical schools during the two year period (1921-1923) when the word "reputable" as qualifying medical schools was out of the statute; that the legislature had opened the door to all medical schools during those two years and then came along and closed the door before these students could graduate and get their licenses. This was an appealing argument and resulted in carrying the amendment. However, after the amendment as filed and printed was read it developed that the amendment absolutely wrecked the Medical Practice Act. It eliminated preliminary educational qualifications, proof of good moral character, age of applicant and character of school attended. It only required the applicant for license to have a diploma from some legally chartered medical school acquired prior to July 1, 1925. This so elated the friends and products of the diploma mill that they paraded the corridors of the Capitol building, laughing and boasting that they had just been waiting for this opportunity and had argued one thing on the floor of the House and put over a wholly different thing in the amendment and had thereby ravished the State Board of Health.

Take warning, therefore, that the diploma mill is not yet dead. However, it is said that "those who laugh last, laugh best." It must be remembered that at this time the House bill had arrived in the Senate and was still in the Committee on Public Health and Eleemosynary Institutions. When it was called for consideration by this Committee, Senator Phil M. Donnelly, of Lebanon, in the 27th Senatorial District, not a member of the committee and therefore not required to be present or attend its meetings, appeared before the committee in company with one Leslie B. Hutchison, a lawyer of Vienna, Missouri, and asked the committee to adopt the same amendment put on the Senate bill in the House. Strenuous objection to that or any other amendment was made by your legislative attorney and the bill was later reported out without amendment. Information then came to us that an effort would be made to amend the bill on the floor of the Senate. Then the fight was on in earnest. The dogs of war were released. The Christian Scientists formed a strong second line combat troupe and did noble work. Dr. William H. Breuer, your President, and Dr. Herman Pearse, Chairman of the Legislative Committee, came to Jefferson City and turned loose a barrage of telegrams. Dr. E. J. Goodwin, your Secretary-Editor, arrived on the scene and joined the directing staff. In a short time it became quite generally known about the Capitol what had happened in the House; that the bushwhackers had attacked from the rear and had crowed and gloated about putting it over on the House and ravishing the State Board.

Your legislative attorney prepared and had typewritten several copies of a statement of the facts developed in the trial of the St. Louis and Kansas City medical school quo warranto cases, together with a written argument against the amendment. These were delivered to Senator Mitchell and

by him placed in the hands of several friendly senators. At the same time, your attorney let it be known in a way that he was confident it would get to the captains of the diploma mill forces that the whole diploma mill scandal would be reviewed on the floor of the Senate, when and where the newspaper reporters would get the stories again for publication.

It so happened that the chiropractic bill was called up ahead of the medical bill and passed after several hours' debate, and after fourteen amendments to it were offered and voted down. The defeat of every amendment offered to the chiropractic bill put the Senate on record in a way that it could not afford to adopt any amendment to the medical bill. Then, too, telegrams and letters had begun to reach the senators from doctors and Christian Scientists of their districts, requesting them to pass the medical bill unamended. This was too much for the diploma mill scouts. They ran up the white flag, surrendered and retired. The medical bill passed by a vote of 32 to 0, without any amendment being offered or objections being made. The bill then went to the governor, who signed it and it will become a law ninety days after the legislature adjourned, in the form as originally introduced.

House Bill No. 172 and Senate Bill No. 96 are companions and are what have been referred to as the Medical College Bill. This is the bill which makes it a misdemeanor for a medical school to sell and a misdemeanor for one to buy a diploma. The diploma mill interests attacked this bill in the House also and were successful in getting two amendments adopted, which, however, did not so seriously affect this bill as the amendment to the other bill affected it.

The Senate medical school bill was passed unamended by the Senate. When it went over to the House it had to either be amended or killed outright, or the diploma mill was defeated again. Therefore, their plan was to, and they did, get it referred to the Committee on Criminal Jurisprudence, of which Representative George F. Heege, of St. Louis County, the leader of the diploma mill forces, was chairman. The companion House bill had, at its introduction, been referred to the Committee on Criminal Justice, which committee should have had the Senate bill.

It was further planned to hold the bill in the committee and not report it out and thus put it to an endless sleep. It developed, however, that Dr. Wallace, Chairman of the House Committee on Public Health and Scientific Institutions, had a bill in his committee which Representative Heege wanted reported out. Dr. Wallace agreed to report it out if Heege would report out the medical school bill. Heege agreed to report out that bill at a certain time but left Jefferson City without doing so and was absent several days. He was reported to be ill at his home in St. Louis County. The bill could not be reached until Representative Jones H. Parker, St. Louis, vice chairman of the committee, forced open the desk in which this and other bills were locked, and reported it out.

Thereafter, in due course, it was passed by the House in its original form without any amendments even being offered. Hence, ninety days after the legislature adjourned the medical school bill will become a law.

In addition to the successful passage of these bills your representatives secured the amendment of several bills unfavorable in some of their terms to the medical men and hospitals of the state, which also have been well reviewed by Secretary-Editor Goodwin in *THE JOURNAL* for April.

The Chiropractic Bill

The most important provisions of the Chiropractic Bill have likewise been reviewed and explained in the recent issue of *THE JOURNAL* and by Dr. Pearse in his report.

Your representatives at Jefferson City neither opposed nor endorsed this bill. There seems to be a difference of opinion among the profession as to the wisdom of creating a law whereby chiropractors may be regulated. One group of medical men holds that the chiropractor should not under any circumstances or conditions be recognized. The other group argues that it is preferable to recognize them and adopt a rigid regulatory law whereby they may be required to meet a fixed preliminary educational standard equal to that of the medical men and to take a course of professional training that will sufficiently acquaint them with the human anatomy and human ills so as to enable them to at least recognize pathological conditions.

Moreover, it is argued that by adopting a stringent law with high requirements as to preliminary education and time spent in studying and training in the professional school, it will tend to cause them gradually to drift into regular medicine or enter a regular medical school in the first instance, since by attending one more year at a medical school one may secure an M.D. degree. It should be remembered that it was and is a condition and not a theory confronting us. It was not a question of deciding whether to open the gates of our state and invite them in. Quite the contrary. They were here and have been for several years and have become rather thoroughly entrenched, practicing, with few exceptions, without let or hinder, some growing rich, irrespective of character, education or training.

Who Are Primarily Responsible for This Situation? Dare I say it is you, my dear doctors, who are responsible? Unquestionably, on your shoulders rests the chief responsibility.

bility, just as the responsibility rests primarily upon the legal profession for the shortcomings of our system of jurisprudence. Notwithstanding chiropractors have been practicing medicine for years in Missouri without a license, how many doctors have gone or would go to the office of the prosecuting attorney and sign an affidavit charging them with practicing medicine without a license? They are very rare. Yet these same gentlemen are the loudest in their criticism of the legislative committee and officers of this Association for, as they assert, allowing the chiropractic bill to pass.

The training a physician receives, both in school and practice, is such as to render him more or less tyrannical in his mental make-up. He gives orders always and his dominion is absolute. This he can do with sick patients and helpless nurses, but not with the legislature. What does the average physician know about legislation? In all due respect, nothing. He does not realize that the legislature is composed of as many minds as there are members, with quite as many views. The various opinions throughout the state on given subjects are centered here. The sentiment against the so called "Medical Trust"; the sentiment against most any organized profession; the sentiment against the use of serums and antitoxins; the sentiment against the use of medicine in any form; the sentiment in favor of Christian Scientists; the sentiment in favor of osteopathy; the sentiment in favor of the chiropractic system.

Success in the legislature can only be attained by giving and taking. Hence, the passage of the chiropractic bill was the expression of the legislative will.

Conferences and Team Work

Two very important and helpful conferences were held, as you recall, at Jefferson City, one in August, 1926, and one in January, 1927, by the state councilors and other leading and influential members of the State Association. At these meetings the proposed amendments to the Medical Practice Act were separately discussed and their phraseology agreed on, including the exemption of Christian Scientists. Likewise was the legislative policy to be followed at this session of the legislature considered and settled on.

Valuable suggestions were made and assistance rendered by Drs. W. H. Breuer, Joseph W. Love, L. C. Chenoweth, A. R. McComas, H. E. Pearse, W. T. Elam, Guy B. Mitchell, James Stewart and several others. The legislative program adopted by these conferences was strictly followed by your representatives at Jefferson City.

This report cannot be properly closed without a special reference to Representative (Dr.) Wallace and Senator (Dr.) Mitchell, and also to my immediate colleagues, Drs. H. E. Pearse and E. J. Goodwin and Mr. Wm. Condou. Dr. Wallace directed and handled these bills in the House and Senator Mitchell piloted them through the Senate.

Dr. Pearse, your legislative chairman, is certainly the right man for that place. He is seasoned and experienced in legislative work and fully understands the peculiarities of the game. Likewise, does your worthy Secretary-Editor, Dr. Goodwin, possess an inside knowledge of the vicissitudes incident to the travels of a medical bill through the legislative highways. Hence, by united, harmonious and intelligent teamwork by your legislative representatives and Association officials your medical bills, in their original and approved form, have been enacted into law.

J. HENRY CARUTHERS, Attorney.

REPORT OF THE SECRETARY

The membership enrollment has maintained satisfactory strength as compared with previous years. On June 30, 1926, the enrollment was 3287. This was the date when the books were audited and a more elaborate system of recording the membership was installed. On December 31, 1926, the membership was 3307, an increase of 20. On May 1, 1927, the membership was 3305, a decrease of 2 but an increase of 16 over the enrollment of April 1, 1926. These figures include 79 Honor Members.

This being a legislative year, the work in the Secretary's office was correspondingly increased but we managed to keep track, with little extra clerical help, of some 43 bills in the legislature that required our attention either to advance their passage or oppose them. A detailed report of our legislative work will be made by our Legislative Committee and by Mr. J. Henry Caruthers, St. Louis, who represented our interests at the session. I might say at this point that all the bills we had introduced and supported were passed and approved by the Governor, and that all the bills which we opposed failed of

passage. This includes 2 bills that were definitely aimed at the prevention of vivisection, both of which were amended by the Legislative Committee so as to remove the objectionable clauses, but both failed of passage.

Proposed Constitution and By-Laws

The uniform Constitution and By-Laws submitted by the American Medical Association last year and introduced at our last meeting will come before you for regular action.

Medical Relief in Disaster

In July, 1926, the American Medical Association sent a proposition to every state and county society in the country, requesting the establishment of a committee on medical relief in disaster. The essentials of the plan are, "to provide an organization that can immediately function in case of disaster by reason of its having a medical man designated in each county of the country who shall be deputized by the American Medical Association to act at once in organizing and directing immediate medical relief."

In the counties the president of the county medical society is designated as the director of organization for relief in that county and the president of the state association director of the state work. These officers, and the committees working under them, are to serve under the direction of the American Medical Association until the relief work is taken over by the proper national organizations. A number of our component societies adopted the plan and the proposition will come before you for action. Dr. C. A. Vosburgh, President of the St. Louis Medical Society, has organized the members in that city for the present emergency in the flooded districts. President W. H. Breuer appointed Dr. Vosburgh to represent our Association at the conference of the American Red Cross in Memphis, Tennessee, April 28, for the relief of the sufferers in the flooded areas.

Birth Registration

The American Medical Association has submitted resolutions adopted by that body at the Dallas session, requesting our co-operation for bringing Missouri into the birth registration area. The Bureau of Census is making a drive to bring every state into the registration area for births and deaths. Missouri is included in the death registration area but not in the birth registration.

Postgraduate Extension Course

You will hear the first report of the Committee on Postgraduate Extension Course appointed in July, 1926. I believe we have, through this committee, a means of extending to county medical societies a service that will be helpful and stimulating to the members living in districts not readily accessible to clinical material. In 1916, we undertook to serve the county societies in this manner and did do some good work. The war interrupted this undertaking. Several states have followed one plan or another in attempting to convey to rural members information and instruction upon the newer methods and improvement of old methods of treatment of disease.

Guests

We have invited several guests to address us at this session, namely Dr. C. M. Rosser, Dallas, Texas, Professor of Surgery in Baylor University Medical School, and Dr. Frederick C. Waite, Cleveland, Ohio, Professor of Biology in Western Reserve

Medical School. Many of you are acquainted with Dr. Waite who assisted the State Board of Health in making a survey of medical schools in Missouri in 1923.

The Secretaries' Dinner

The annual dinner given for the secretaries by the Association will be held at the Liberty Hotel, Tuesday evening, at 6:00 p. m. This is always an occasion of considerable interest to the organization, and the councilors and other officers of the Association are earnestly requested to attend the meeting.

Status of Membership

Number of Members, April 1, 1926.....	3289
New Members	99
Reinstated	14
Total	3402
Resigned	7
Transferred	24
Dropped	37
Deceased	28
Suspended	1
Total April 30, 1927.....	3305

E. J. GOODWIN, Secretary.

REPORT OF COMMITTEE ON SCIENTIFIC WORK

In the preparation of the program which should be in a sense a resume of the experiences and observations of the medical profession of the State of Missouri, we have attempted to assemble a series of talks of common interest to the membership as a whole. Unfortunately, many worthy papers offered came too late. These papers will be and are solicited for publication in THE JOURNAL, but due to lack of time and the demands of the printers we have been handicapped and have had to follow an outline of over two years standing.

As members and workers on the Scientific Committee, we beg that members desiring to present cases, or papers dealing with cases, send in their subjects at least two months before the date of the Annual Meeting so that the program may be fully developed and published for the information of the members of the Association.

We feel that the rural districts have not given their full cooperation in the presentation of obscure and interesting medical questions. Why leave it to the city men to present your cases? They belong to you and as a constant observer you are much better informed and better qualified to present a subject for discussion. This Association is chartered for mutual help and education. You, as individuals, owe the medical profession of the state all that you have learned from study and observation. Why won't you give it?

For the present program we are especially indebted to Dr. R. A. Woolsey, Chief Surgeon of the Frisco Railway, in the arrangement of the Symposium on Railway and Emergency Surgery.

FRANK I. RIDGE,
ROBERT F. HYLAND,
E. J. GOODWIN, Chairman.

REPORT OF THE TREASURER

General Fund

Receipts

Balance May 15, 1926	\$10,539.78
Advertising	7,816.87
Exhibit space	485.00
Rent Medical Protective Association	180.00
Interest on daily balance	221.01
Dues	22,839.00
	\$42,081.16

Disbursements

Vouchers paid	\$26,058.59
Balance April 30, 1927	16,022.57
	\$42,081.16

Legislative Fund

Receipts

Balance May 15, 1926	\$ 4,634.73
Transferred from general fund	2,869.85
Interest on daily balance	92.29
	\$ 7,596.87

Disbursements

Vouchers paid	\$ 4,242.54
Balance April 30, 1927	3,354.33
	\$ 7,596.87

Defense Fund

Receipts

Balance May 15, 1926	\$ 921.27
Interest on daily balance	22.62
	\$ 943.89

Disbursements

Vouchers paid	\$ 300.00
Balance April 30, 1927	643.89
	\$ 943.89

Sinking Fund

Receipts

Balance May 15, 1926	\$ 658.57
Interest on daily balance	17.45
	\$ 676.02

Balance April 30, 1927	\$ 676.02
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Recapitulation

General fund	\$16,022.57
Legislative fund	3,354.33
Defense fund	643.89
Sinking fund	676.02
Total	\$20,696.81

G. W. HAWKINS, Treasurer.

REGISTRATION AT 70TH ANNUAL MEETING

Sedalia, May 2-5, 1927

Abbott, LeRoy C., St. Louis
Aiken, George A., Marshall
Aldridge, M. R., Jefferson
City

Allee, W. L., Eldon
Allen, Charles H., Independence

Armstrong, John H., Kirkwood

Auf der Heide, Frederick, Jefferson City

Baggerly, Walter E., Ladue
Bailey, Fred, St. Louis

Baird, J. Edward, Excelsior Springs

Baldwin, A. H., Pleasant Hill

Barnhart, Don A., Huntsville

Baskett, Edgar D., Columbia

Battersby, Richard S., Columbia

Beckemeyer, William A., Sedalia

Beckett, T. C., Boonville
Bedford, S. V., Jefferson
City

Bell, J. V., Kansas City

Bellows, G. E., Kansas City

Bickford, W. M., Marshall
Bishop, W. T., Sedalia

Black, William D., St. Louis
Blackmore, T. A., Windsor

Blair, Edward G., Kansas City

Boger, James W., Sedalia

Bohling, Cord, Sedalia

Bolton, John W., Warrensburg

Bonham, V. Q., Fayette
Boughnou, H. P., Kansas
City

Bradford, Franklin, Kansas City

Bradley, William B., Windsor

Braecklein, W. A., Higginsville

Breuer, William H., St. James

Bristow, George M., Princeton

Brown, Tinsley, Hamilton

Bruton, J. W., Nevada
Burford, Cyrus E., St. Louis
Burke, John P., Jr., California

Byrne, J. I., St. Joseph
Campbell, A. J., Sedalia
Capell, Clarence S., Kansas
City

Carle, H. W., St. Joseph

Carlisle, John B., Sedalia

Carlton, C. E., Stoutland

Carroll, Grayson, St. Louis

Cartwright, C. P., Hughesville

*Caruthers, J. Henry, St. Louis

Castles, John E., Kansas
City

Chalkley, A. J., Lexington

Chenoweth, L. C., Joplin

Clabaugh, Omer W., Sedalia

Clark, H. M., Platte City

Clark, William A., Jefferson
City

Clinton, Lloyd B., Carthage

Clopton, M. B., St. Louis

Cochran, O. W., Boonville

Collins, M. T., Sedalia

*Condon, William, St. Louis

Connell, Even S., Kansas
City

Conrad, Harry S., St. Joseph

Cook, Fountain L., Independence

Cook, Richard F., Carrollton

Cope, John Q., Lexington

Cotton, Tolman W., Van Buren

Coughlin, A. N., St. Louis

Coughlin, W. T., ("Pat"), St. Louis

Craig, T. B. M., Nevada

Crews, R. N., Fulton

Davis, James C. B., Willow Springs

Dawson, J. W., Eldorado Springs

DeVilbiss, Edgar F., Kansas City

Dickson, F. D., Kansas City

Dixon, O. Jason, Kansas City

Dorsett, E. Lee, St. Louis

* Guest

- Donaldson, Clyde O., Kansas City
 Dowell, G. S., Braymer
 Dowell, H. S., Maryville
 Downing, T. J., New London
 Draper, Thomas J., Warrensburg
 Duncan, R. E., Kansas City
 Dyer, D. P., Sedalia
 Edmonds, Oliver R., Tina
 Elam, William T., St. Joseph
 Elliott, B. Landis, Kansas City
 Engel, Lawrence P., Kansas City
 Enloe, Cortez F., Jefferson City
 Ewell, George H., Kansas City
 Farthing, R. R., Ozark
 Fellows, Ralph M., Salisbury
 Ferguson, W. J., Sedalia
 Ferris, C. R., Kansas City
 Fogle, Robert L., Otterville
 Fowler, J. J., Sedalia
 Francisco, Clarence B., Kansas City
 Freeman, Arthur B., Rockville
 Funsch, E. C., St. Louis
 Fuson, Frank B., Nevada
 Gayler, Wenzel C., St. Louis
 Gebhart, O. C., Forest City
 Gibson, Edward T., Kansas City
 Gillham, F. W., Jefferson City
 Gilkey, H. M., Kansas City
 Gilliland, C. E., St. Louis
 Gilliland, Oliver S., Kansas City
 Good, C. A., St. Joseph
 Goodwin, E. J., St. Louis
 Goodson, William H., Liberty
 Gradwohl, R. B. H., St. Louis
 Grace, Haynie M., Chillicothe
 Green, J. R., Independence
 Greenberg, C., St. Joseph
 Greene, Joseph W., Independence
 Grove, Gulph W., Knobnoster
 Gum, P. D., West Plains
 Gum, A. J., Versailles
 Haire, R. D., Clinton
 Hall, O. B., Warrensburg
 Hamilton, Eugene P., Kansas City
 Hampton, J. R., Clinton
 Hanna, Minford A., Kansas City
 Hawkins, G. W., Salisbury
 Hays, Bernard W., Jackson
 Head, Charles W., Windsor
 Hedrick, Harold B., Kansas City
 Heinrichs, J. C., St. Louis
 Hite, H. A., Green Ridge
 Holbrook, Ralph W., Kansas City
 Holbrook, Walter F., Kansas City
 Holtzen, E. E., Florence
 Hornback, E. R., Joplin
 Hornback, J. T., Nevada
 Howard, Francis A., Slater
 Howard, Stanley P., Jefferson City
 Howlett, H. E., Richland
 Hunt, C. J., Kansas City
 Hyndman, Charles E., St. Louis
 Isley, M. DeLafayette, Excelsior Springs
 Jackson, Jabez N., Kansas City
 James, Luther, Blackburn
 James, Robert M., Joplin
 Jarvis, James F., Sweet Springs
 Jarvis, N. W., Festus
 Jennings, J. Ellis, St. Louis
 Jennings, Robert J., Windsor
 Johnson, William E., Warrensburg
 Johnston, E. Lee, Concordia
 Jones, George H., Kansas City
 Jones, H. L., Kansas City
 Jones, W. G., Sedalia
 Kennedy, Robert W., Marshall
 Kerr, Homer L., Crane
 Kieffer, A. R., St. Louis
 Kieffer, Roland S., St. Louis
 Kieffer, Victor B., St. Louis
 Klingner, T. O., Springfield
 Knabb, F. P., Valley Park
 Knight, J. S., Kansas City
 Koch, Otto W., Clayton
 Kouns, D. H., Tuscumbia
 Krause, Irl B., Jefferson City
 Krimming, C. E., Kansas City
 Laffoon, France L., Kansas City
 Langsdorf, H. S., St. Louis
 Lapp, J. G., Kansas City
 Leighton, W. E., St. Louis
 Logan, James A., Warsaw
 Long, James A., Warsaw
 Love, J. G., Sedalia
 Love, Joseph W., Springfield
 McAlester, A. W., Kansas City
 McCallum, Francis M., Kansas City
 McComas, Arthur R., Sturgeon
 McComb, J. A., Lebanon
 McConnell, C. T., Houstonia
 McCracken, Samuel R., Excelsior Springs
 McDermott, J. L., Kansas City
 McLaugh, E. T., Richmond
 McGann, P. J., Stover
 McGuire, C. A., Kansas City
 McIntire, Emery J., Carthage
 McKay, H. S., St. Louis
 McKenna, Henry J., Kansas City
 McMahon, Alphonse, St. Louis
 McMichael, Austin, Rockport
 McNeil, Charles A., Sedalia
 McVay, James R., Kansas City
 Major, Hermon S., Kansas City
 Manning, David F., Marshall
 Mansur, Edward E., Jefferson City
 Marshall, Alfred H., Charleston
 Martin, W. E., Odessa
 Martin, William T., Albany
 Mayes, J. F., St. Louis
 Meredith, A. L., Prairie Home
 Miers, Edward M., Kansas City
 Miller, Enoch H., Liberty
 Miller, E. Lee, Kansas City
 Mills, Joseph W., New Haven
 Mitchell, Guy B., Branson
 Mitchell, J. E., Sedalia
 Monahan, Elmer P., Kansas City
 Monroe, A. E., Sedalia
 Moore, Harry M., St. Louis
 Moore, Neil S., St. Louis
 Moore, T. E., Trenton
 Morley, Frank, Sedalia
 Mullen, Clifford J., Kansas City
 Munsch, Augustin P., St. Louis
 Murphy, Franklin E., Kansas City
 Murray, John W., Quincy
 Myers, B. L., Kansas City
 Myers, E. Lee, St. Louis
 Myers, J. L., Kansas City
 Myers, W. A., Kansas City
 Neal, M. Pinson, Columbia
 Neff, Frank C., Kansas City
 Neilson, C. H., St. Louis
 Newlon, J. S., Butler
 Nifong, Frank G., Columbia
 Norman, J. B., Tipton
 Norman, Robert N., Ava
 North, Emmett P., St. Louis
 Noyes, Guy L., Columbia
 Orr, Thomas G., Kansas City
 Osborne, Charles D., Otterville
 Owens, James F., St. Joseph
 Overholser, Milton P., Harrisonville
 Owen, H. I., Fulton
 Owens, J. H., Sweet Springs
 Owens, P. H., Kansas City
 Pare, E. Y., Leeton
 Parker, James H., St. Joseph
 Parker, H. F., Warrensburg
 Parkhurst, C. L., Houstonia
 Parrish, J. S., Pleasant Green
 Pearce, Herman E., Kansas City
 Peelor, E. C., Clinton
 Perry, J. M., Princeton
 † Pipkin, Robert L., Springfield
 Pittam, Radford F., Kansas City
 Poague, Samuel A., Clinton
 Pool, W. O., Stoutland
 Potter, Caryl, St. Joseph
 Powell, Carl A., St. Louis
 Powell, John D., Longwood
 Oliver, Everett A., Richland
 O'Reilly, Archer, St. Louis
 Ravenel, M. P., Columbia
 Reder, Francis, St. Louis
 Redman, Spence, Platte City
 Reilly, Leo J., St. Louis
 Reser, T. S., Cole Camp
 Ridge, Frank L., Kansas City
 Robichaux, Eugene C., Excelsior Springs
 Robinson, J. L., Kansas City
 Robinson, G. Wilse, Kansas City
 Robnett, Dudley A., Columbia
 Rooks, O. R., Trenton
 * Rosser, C. M., Dallas, Texas
 Rumsey, F. C., Kansas City
 Rusk, E. McD., New Bloomfield
 Ryland, C. T., Lexington
 Sands, Martin L., Sedalia
 Savage, Horace G., Warsaw
 Schaefer, Edward H., Sedalia
 Schaffler, Robert McE., Kansas City
 Schenk, H. C., Mt. Vernon
 Schofield, L. J., Warrensburg
 Sexton, D. L., St. Louis
 Shaw, W. J., Fayette
 Shelton, E. C., Eldon
 Shelton, William A., Kansas City
 Shy, M. P., Sedalia
 Simmons, S. P., Marshall
 Simpson, Lloyd, Columbia
 Simpson, Morris B., Kansas City
 Simrell, Harry A., Caplinger Mills
 Sims, George Kirby, Joplin
 Slcomb, L. H., St. Louis
 Smith, Clinton K., Kansas City
 Songer, H. E., Kansas City
- Spotts, B. M., Marshall
 Stebbins, N. I., Clinton
 Stewart, E. L., Kansas City
 Stewart, James, Jefferson City
 Stofor, Dar D., Kansas City
 Stone, William E., Boonville
 Stowers, James E., Kansas City
 Strector, R. D., Moberly
 Stryker, G. V., St. Louis
 Suddarth, Charles H., Excelsior Springs
 Swinney, R. W., Kansas City
 Tesson, J. A., Kansas City
 Tesson, Noah A. G., Kansas City
 Thompson, Ralph L., St. Louis
 Thornton, Joseph E., Columbia
 Timberman, J. H., Chillicothe
 Titsworth, Guy, Sedalia
 Trader, Charles B., Sedalia
 Trimble, W. K., Kansas City
 Trowbridge, Ellsworth H., Kansas City
 Turner, H. F., Sedalia
 Twyman, Tom, Kansas City
 Tyler, R. Seaton, Sweet Springs
 Underwood, R. H., Kansas City
 Van Allen, John P., Cole Camp
 Van Ravenswaay, C. H., Boonville
 Veirs, Willard L., Pleasant Hill
 Vinyard, Robert, St. Louis
 Vosburgh, C. A., St. Louis
 * Waite, F. C., Cleveland, Ohio
 Walker, Grant D., Eldon
 Walker, G. S., Clinton
 Walker, W. E., Lamonte
 Wallace, C. H., St. Joseph
 Wallace, H. K., St. Joseph
 Walter, A. L., Sedalia
 Walton, Josiah H., Windsor
 Welch, A. J., Kansas City
 Welch, Albert S., Kansas City
 West, William M., Monett
 Wheeler, W. M., Sedalia
 * Wickersham, J. Ward, St. Louis
 Williams, D. A., Kansas City
 Williams, Porter E., Kansas City
 Williamson, William H., Mokane
 Willis, J. B., Mayview
 Wills, William J., Springfield
 Wilson, G. S., Fortuna
 Wise, H. J., Sparta
 Wood, V. V., St. Louis
 Woods, R. J., Smithville
 Woolsey, R. A., St. Louis
 Wright, James B., Trenton
 Yancey, E. F., Sedalia
 Yates, Martin, Fulton
 Young, H. McClure, St. Louis
 Zeinert, O. B., St. Louis
- Total, 337
 * Guest

BOONE COUNTY MEDICAL SOCIETY

The Boone County Medical Society met at Columbia, June 7. The meeting was called to order at 8 p. m. by Dr. Lloyd Simpson, Columbia.

A letter from Mr. W. B. Nowell was read asking if the physicians of Boone County would give their services to the Boy Scouts while in camp. Dr. R. S. Battersby, Columbia, moved that we assist the Boy Scouts in any way possible. The motion was

seconded by Dr. J. E. Thornton, Columbia, and passed.

Committee Reports

A report on the Physicians' Telephone Exchange was made. A central exchange for physicians of Columbia is now available, twelve physicians belonging to this group.

The Committee on Entertainment reported on the party to be given for Drs. R. R. Robinson, A. R. McComas and Frank G. Nifong, June 13.

A motion was made by Dr. Dudley A. Robnett, Columbia, that a note of sympathy and flowers be sent to Mrs. M. Pinson Neal who is ill. Motion carried.

Dr. Nifong suggested that the Society have a program on "Fractures." This program will be given at the next meeting.

HUGH P. MUIR, M.D., Secretary.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY

The regular meeting of the Lawrence-Stone County Medical Society was held at the City Hall, Aurora, June 7, being called to order by acting president, Dr. J. P. Andrews, Marionville. Members present: Drs. W. I. Fulton, Mt. Vernon; W. M. Holmes, Marionville; W. S. Loveland, Joplin; F. W. Lester, Marionville; R. D. Cowan, Aurora. Visitors present: Drs. E. C. Mason, Springfield, and Hardy Kemp, Aurora.

Dr. W. S. Loveland gave a talk on "Diabetes Mellitus," and Dr. E. C. Mason read a paper on "The Role of Diet in the Practice of Medicine."

The presentation of these papers was followed by a general discussion.

A motion to have a program on "Tuberculosis" at the next meeting at the State Sanatorium, carried.

Dr. Mason was elected an honorary member of the Society.

The application of Dr. Kemp to become a member of this Society was voted upon and he was elected.

R. D. COWAN, M.D., Secretary.

PEMISCOT COUNTY MEDICAL SOCIETY

The Pemiscot County Medical Society met in regular session in the Court House at Caruthersville, May 17, at 3:00 p. m., with the president, Dr. M. H. Hudgings, in the chair.

The following officers were elected for the year 1927: President, M. H. Hudgings, Caruthersville; vice president, W. R. Limbaugh, Hayti; secretary, J. W. Johnson, Hayti. Committee on Arrangements: G. W. Phipps and J. R. Pinion, Caruthersville; J. P. Vickrey, Braggadocio; J. W. Johnson, Hayti.

Dr. W. S. Petty, Caruthersville, was appointed by the president as a Committee on Scientific Program for the next meeting.

J. W. JOHNSON, M.D., Secretary.

DOES NORMAL KIDNEY TISSUE PERMIT PASSAGE OF TUBERCLE BACILLI?

William M. Spitzer and William W. Williams, Denver (*Journal A. M. A.*, June 11, 1927), are convinced that the tubercle bacillus does not pass through normal renal epithelium. The tubercle bacillus appears in the urine only when tuberculous lesions exist either in the urinary tract or in the genital tract.

BOOK REVIEWS

THE MODERN PRACTICE OF PEDIATRICS. By William Palmer Lucas, M.D., LL.D., Professor of Pediatrics, University of California Medical School; Physician in chief, Children's Department, University of California Hospital, etc. New York. The Macmillan Company. 1927.

Dr. Lucas says, in his preface: "I have been convinced of the value of approaching the problem of the abnormal through the doorway of the normal. The prevention of disease and disaster among children is to me the greatest compensation in the study and practice of pediatrics." This is indeed the point of view from which the book is written. The pity is that laymen who view preventive medicine with either suspicion or indifference will profit by it only indirectly.

From the strictly professional standpoint, the book is excellent. The material is boiled down, concentrated, but by no means to dryness. Of the various factors which make it readable not the least important is the avoidance of the tedious succession of authors' names in the text by the device of bibliographic lists after the chapters. Statistics are held to an irreducible minimum.

The book's claim to modernity as indicated in the title is amply justified. Dr. Lucas' treatment of such subjects as the prevention and therapy of diphtheria, recent discoveries by investigators of scarlet fever, pathogenesis and treatment of athrepsia and anhydremia, treatment of hereditary syphilis, and pathologic conditions of the newly born, gives his book a foremost place among textbooks of its kind. The chapter on Therapeutic and Diagnostic Procedures, with its admirable illustrations, is of greatest value to practitioners and students.

I am afraid I shall have to buy this book. Greater praise hath no reviewer.

P. J. W.

HELIO THERAPY. With Special Consideration of Surgical Tuberculosis. By A. Rollier, M.D. Translated by G. De Swietochowski, M.D., M.R.C.S. Oxford University Press. American Branch, 35 W. 32d St., New York City. Price \$6.25.

Reading a book by Rollier on Heliotherapy is something like reading a book by Marconi on wireless telegraphy: One feels that one has come to the *fons et origo*. Not that Rollier "discovered the sun," therapeutically speaking. His own "Historical Outline" disproves that. But his discussion of dosage, technique, and clinical results in the fourth chapter, outlining heliotherapy and orthopedic measures in surgical tuberculosis according to the localization of the disease, shows us clearly the extent and value of his remarkable work at Leysin.

Even laymen have become accustomed to pictures of naked children romping warmly about in the snow. But there is more than this to heliotherapy. The second chapter, on Experimental Contributions, in which the various rays are discussed, together with skin pigmentation, influence on blood cells, etc., indicates how highly specialized the subject has become. And we see clearly in the fourth and succeeding chapters, the absolute necessity of individualizing the treatment according to the patient's reaction, the nature and location of the lesion, the degree of secondary infection, etc. Here we have a nursing as well as a medical specialty.

Dr. Rollier's book is of interest to all practitioners, but particularly to specialists in tuberculosis and in diseases of children.

P. J. W.

APPLIED PHYSIOLOGY. By Samson Wright, M.D., M.R.C.P., Department of Physiology, Middlesex Hospital Medical School. With introduction by Swale Vincent, M.D., LL.D., D.Sc., F.R.S.Ed. and Canada. Professor of Physiology, University of London. Oxford University Press. American Branch, 35 W. 32d St., New York City. Price \$4.50.

As is stated in the introduction of this book, it presents "many facts and theories on the borderland of physiology and medicine," and both facts and theories have been combined in a very usable form. Perhaps the outstanding feature of the book is the plan of the author which has made available such a large amount of information not otherwise easily accessible to the average student of physiology or medicine.

The subject matter is treated first from the physiological standpoint, and each major topic is followed by a section on selected clinical contacts. This arrangement makes the application of the physiological facts very forceable. As the field covered is a large one these sections are necessarily rather brief, but an ample list of references is provided for those wishing to amplify any particular topic.

In dealing with unsettled or controversial subjects both sides are given fairly. However, because of limited space the author acknowledges that he has been forced to a more or less dogmatic position in many cases, but although some physiologists at least would not agree entirely with the author's stand, particularly on some matters relating to ductless glands, opportunity is given the reader to consider either side through the impartial references submitted.

The book is unusually complete in the newer contacts, a feature which should appeal to the practitioner as well as the technical scientist. It is a readable, well written and altogether desirable book in a little touched field.

M. M. E.

MODERN MEDICINE. By Sir William Osler, Bart., M.D., F.R.S., Late Regius Professor of Medicine in Oxford University, England, etc. Third edition, thoroughly revised. Re-edited by Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College, Philadelphia, etc. Assisted by Elmer H. Funk, M.D., Assistant Professor of Medicine, Jefferson Medical College, Philadelphia. Volume IV. Diseases of the Respiratory System—Diseases of the Circulatory System. Illustrated. Lea & Febiger, Philadelphia. 1927. Price \$9.00.

This volume of a little more than a thousand pages has been written by the same group of standard authors that have participated in the other volumes, with the exception that the chapter on Diseases of the Valves of the Heart has been revised by Alexander G. Gibson; the chapter on Diseases of the Arteries revised by Campbell F. Howard. Similarly Aneurism has been rewritten by Howard.

This volume, like the others of the series, presents the standard or conservative views of medicine. We find nothing radical or startling in the pages, and very little that is personal or individualistic. This leads one to disappointment when consulting the volume for some specific information regarding obscure conditions.

G. H. H.

EXAMINATION OF CHILDREN BY CLINICAL AND LABORATORY METHODS. By Abraham Levinson, B.S., M.D., Associate in Pediatrics, Northwestern University Medical School, etc. Second edition. With

eighty five illustrations. St. Louis. The C. V. Mosby Company. 1927. Price \$3.50.

This book's right to exist—and it is a valid right—may be summed up in one word; convenience. For here between two covers we have summarized with remarkable completeness the clinical and laboratory procedures commonly employed in arriving at accurate diagnosis in pediatrics. Being about two hundred pages in length, the book naturally makes no pretense at presenting details of physical diagnosis, clinical microscopy, bacteriology, etc. The methods of clinical examination are outlined, as are also the common laboratory tests. The actual performance of a Wassermann test, for example, is not given, nor is electrocardiography. But, again for example, we are carefully instructed in such strictly pediatric procedures as obtaining blood from the longitudinal sinus or from the jugular vein, the performance of cistern or ventricular punctures, etc.

Perhaps the chief virtue of the book is its emphasis upon interpretation of the findings obtained. Nowhere do we get the impression that any of the procedures described is pathognomonic,—sufficient in itself. Rather, we learn the significance of each in the ultimate diagnosis of the case.

The reader of this work will feel as if he had "made rounds" in a modern, 1927, children's hospital. Many practitioners, even pediatricians, who send patients to such a hospital "for observation and diagnosis" are woefully hazy about what needs to be done to these patients. Dr. Levinson's clear explanations and admirable illustrations will be of the greatest value to these extramural workers.

P. J. W.

ACUTE RHEUMATIC HEART DISEASE TREATED WITH STREPTOCOCCUS ANTI- TOXIN (SCARLET FEVER SERUM)

Joseph H. Barach, Pittsburgh (*Journal A. M. A.* June 11, 1927), reports a case of acute rheumatic heart disease with evidences of a serious endocarditis with myocarditis in which rapid recovery followed the use of streptococcus antitoxin (scarlet fever antitoxin). Ten cubic centimeters of scarlet fever streptococcus antitoxin-Lederle was injected intramuscularly. Within twenty-four hours the patient's temperature began to recede, reaching normal by the seventh day, and the pulse receded steadily from 140 to 110 on the seventh day. The disease seems to have ended by a typical lysis. The patient's general condition improved, appetite returned, weight increased and a final recovery seems to have taken place.

PRESSURE VACCINATION TECHNIC

Stanley Thomas and R. C. Bull, Bethlehem, Pa. (*Journal A. M. A.*, June 11, 1927), endorsed the Leake pressure method of vaccination. In their experience it has been shown to be as efficacious as any other in inducing vaccinia in susceptible persons. It has the advantage of saving time in vaccinating a large number of persons in a short time. The pressure technic overcomes the objection to the use of a dressing following vaccination and makes the dressing or shield obviously unnecessary, and it is more desirable from the point of view of the vaccinated person.

OSTEITIS OF COCCYX

In the case of osteitis of the coccyx reported by Frank K. Boland, Atlanta, Ga. (*Journal A. M. A.*, June 11, 1927), stricture of the rectum was the predominating lesion.

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E. J. GOODWIN, M.D., EDITOR
901 Missouri Building, St. Louis, Mo.

PUBLICATION } T. W. COTTON, M.D., Chairman
COMMITTEE } C. B. FRANCISCO, M.D.
 } M. A. BLISS, M.D.

ORIGINAL ARTICLES

TREATMENT OF CRIPPLING CONDITIONS IN CHILDREN*

WITH SPECIAL REFERENCE TO PREVENTION OF DEFORMITIES

LEROY C. ABBOTT, M.D.
ST. LOUIS

During the past three years 868 new patients have been admitted to the Shriners' Hospital for Crippled Children in St. Louis. Of this number 388 (45 per cent.) were crippled by infantile paralysis, 52 (6 per cent.) by tuberculous infections of the joints, 27 (3 per cent.) by osteomyelitis, 23 (2 per cent.) by multiple arthritis, 152 (18 per cent.) by congenital deformities and 226 (26 per cent.) by a miscellaneous group which included spastic paralysis, deformities from rickets, old fractures, etc. As these children came from 20 states the above figures are of some value in estimating the relative importance of various diseases acting as primary causes in the production of crippling conditions of childhood.

It is not my desire, however, to dwell further on statistics; rather would I call your attention to the frequency with which deformities were found in this series of cases and to the important part which they played in the production of disability. Irrespective of etiology, the large majority of these children were admitted to the hospital primarily for the correction of deformities. This is of practical importance because we know that the deformities occurring in an acquired disease are usually preventable; first, by early recognition of that disease, second, by the application of fundamental methods of treatment. It is with these essential points in diagnosis and the basic principles of treatment that we are chiefly concerned in this paper.

As it is obviously impossible to include all crippling conditions of childhood, I have chosen to discuss only two of the more important

groups, namely, infantile paralysis and infections of the joints. Furthermore, I shall refer only to those essential points in diagnosis and methods of treatment which I regard as of fundamental importance in the prevention of deformity.

INFANTILE PARALYSIS

This common disease, which accounts for such a large number of crippled children (45 per cent. in this series) can best be discussed under the following headings: (1) Early diagnosis, (2) early treatment, (3) prevention of deformity.

Early Diagnosis. The diagnosis of infantile paralysis is not often made before the onset of paralysis because the early symptoms so often resemble those seen in other acute disorders of childhood. Lovett states that a surprisingly large number of cases were wrongly diagnosed at this early period even in the midst of an epidemic. However, the symptoms of an acute infection in a young child in late summer, especially in the region where the disease prevails, is always suspicious. If these symptoms are accompanied by sweating, irritability and hyperesthesia an immediate lumbar puncture is indicated and forms our chief diagnostic aid at this time. The fluid in the acute stages is as a rule clear and colorless and does not show great increase in pressure. In the first few days after the onset of symptoms there is usually an increase in the number of cells and these are almost invariably of the mononuclear type of which the lymphocytes are the most common.

The fluids in meningococcal, influenzal and pneumococcal meningitis are so different from that found in infantile paralysis that confusion with those conditions should hardly occur. Tuberculous meningitis is more difficult to differentiate because the fluids in the two conditions are much alike. In the former, however, there are usually more cells, greater pressure and the tubercle bacilli may be found in the fluid.

With the onset of paralysis there should be little difficulty in making a positive diagnosis. The paralysis is characteristically of a scattered, irregular type with loss of reflexes and flac-

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

city of the muscles. The tissue waste is noticeable and the circulation in the affected parts is impaired. Sensory changes are uncommon. Acute tenderness however often marks the con-



Fig. 1. Fixed equinus deformity due to infantile paralysis with involvement of the dorsiflexors of the foot. The heel could not be brought to the ground because of structural shortening of the muscles of the calf, especially the gastrocnemius. Deformity preventable by fixation of the foot at right angles to the leg early in the course of the disease.

dition and may lead to errors in diagnosis; it must be remembered that tenderness is a common finding in the majority of cases.

Early Treatment. When the diagnosis is certain treatment should begin at once. Its



Fig. 2. The same patient as Fig. 1 after operative correction of the deformity by lengthening the heel cord and manipulation.

object should be (1) the restoration of function of the paralyzed muscles and (2) the prevention of deformity.

In the early stages of the disease the restoration of function can best be promoted by securing rest for the muscles in a position of complete relaxation. The fundamental importance of this principle of treatment is fully appreciated with a clear understanding of the pathologic changes which occur. Though infantile paralysis is a generalized infection the most marked effects are seen in the anterior part of the spinal cord. Here we have an intense hyperemia with an influx of cells into the lymph spaces, hemorrhage and edema. These products of inflammation press upon the blood vessels which supply the anterior horn cells and these cells deprived of their nutrition may be seriously injured or completely destroyed. The interruption in function of these important cells deprives the muscles of their motor power and paralysis results. If, however, these inflammatory products are absorbed soon enough the anterior horn cells may recover and re-establish their connection with the muscles.

It would appear therefore from the foregoing description that recovery of the anterior horn cells would necessarily be followed by a return of power in those muscles with which they are intimately connected. Unfortunately, this is not always the case. Muscles which have been even temporarily deprived of their nerve supply are in a greatly weakened state. Moreover, if they are permitted to remain in a stretched position, a condition of fatigue rapidly ensues with a result that the restoration of function is greatly delayed or may never take place. The indication for treatment therefore is to prevent stretching of paralyzed muscles by supporting them in a position of physiological rest, namely, complete and continual relaxation.

In practice this principle is fulfilled by the application of splints. They may be constructed of light metal or plaster of Paris. With extensive paralysis of the lower extremities support should be obtained with the hips extended and abducted, the knees extended and the feet dorsiflexed. In this position the important muscles used in walking, the gluteals, the quadriceps and the dorsiflexors of the feet, are held in complete relaxation.

In the upper extremity paralysis of the deltoid calls for abduction of the arm; paralysis of the biceps, flexion of the elbow; and paralysis of the extensors of the hand and fingers, dorsiflexion of the wrist.

It is important to emphasize that these positions of complete rest must be continuously enforced in order to promote the maximum recovery of the affected muscle groups. In ad-

dition to rest, however, efforts must be made to prevent atrophy and to increase the circulation of the affected muscles by the use of massage and muscle training. Neither should be employed, however, until the tenderness of the muscles has disappeared. I have known cases where tenderness has been unduly prolonged by too early use of vigorous massage and exercise.

As great care must be used during the application of physiotherapeutic measures in order to avoid fatigue it is wise, whenever possible, to employ a skilled physiotherapist who by her training and experience is able to judge the amount of exercise necessary to promote improvement. In many cases, however, it is impractical or impossible to secure the services of a physiotherapist and we have found that a great deal can be accomplished by teaching the parents of the child the necessary exercises. If such a method is employed the patient should be returned to the physician at stated intervals in order that the power of the muscles may be checked and recorded. It is only by careful attention to details that the best results are secured by this very valuable method of treatment.

The use of water in the treatment of infantile paralysis. Recently we have found the use of water to be especially helpful in the prevention of fatigue during exercise. That the advantages of this form of treatment are being recognized is shown by the fact that a considerable number of swimming pools have been especially designed for this purpose. In our hospital we have a small wooden tank containing water of sufficient depth to allow the entire body to be submerged while the patient is in the erect position. By means of a life buoy, exercise can be given in the supine or erect attitude and the patient soon learns to balance himself and walk around the tank. The most important principle involved is the lessening of danger of fatigue because the weight of the limb is removed by the buoyant support of the water. Exercises can therefore be given more thoroughly without the production of harmful effects. In our cases the progress has been much more rapid than where the table exercises alone have been used. Furthermore, the mental stimulus afforded to the patient arouses his enthusiasm with the result that his most hearty cooperation is secured. My own observation and the favorable reports of other clinics have fully convinced me that the water treatment is one of our most valuable adjuncts in securing the return of power in paralyzed muscles.

Prevention of deformity. While the application of the above principles of treatment are essential in promoting maximum recovery in the affected muscles their use is of equal im-

portance in preventing the development of severe deformity. These deformities occur with great frequency particularly in the neglected cases and their presence is always a great handicap to useful function. The common causes of these deformities are: (1) Force of gravity, (2) habitual posture, (3) functional use.



Fig. 3. A typical quadruped with flexion deformity of the hips and knees and equinus deformity of the feet due to habitual assumption of bad posture. The patient is unable to hold himself in the erect attitude. Deformities preventable by early treatment.

The effects of gravity on the production of deformity can be best illustrated by a study of the foot in which there is involvement of the dorsiflexors. In a paralysis of these muscles lack of support permits the foot under the influence of the force of gravity to drop into a position of equinus. If this attitude is allowed to persist the muscles on the posterior aspect of the leg undergo an adaptive shortening. In such a case, therefore, the primary cause of the deformity is the force of gravity, while the



Fig. 4. After operative correction and gradual stretching of the contractures of the joints.

secondary cause is the adaptive shortening of the muscles accommodating themselves to habitual faulty posture. (Fig. 1) If the foot is allowed to remain in this position through a period of growth, permanent bony deformity is certain to occur. Therefore it will be seen that the deformity passes through three stages:



Fig. 5. Varus and valgus deformities of the feet.

(1) A constant malposition, (2) adaptive changes in the soft parts and (3) permanent bony deformity.

Other serious deformities also arise due to habitual assumption of a faulty attitude. We see its most striking effects in patients with extensive paralysis of the lower extremities



Fig. 6. After operative correction and stabilization.

who have been allowed to assume the sitting position with flexion of the hips and knees. This position stretches the important gluteals and quadriceps muscles while the hip flexors and hamstrings are allowed to remain relaxed. Flexion contracture of the hips and knees soon takes place, especially if some power remains in the hip flexors and the hamstring muscles. The patient is no longer able to stand erect and in order to move about he is forced to crawl on his hands and knees. (Fig. 3) This is usually the origin of quadrupeds so commonly seen in neglected cases of severe paralysis.

This influence of gravity and habitual posture with structural alteration in the tissues has been considered as the cause of deformity in the patients who have not become ambulatory. When the patient stands and walks existing deformities are greatly exaggerated under the strain of weight bearing on unbalanced parts and by the action of the muscles in an attempt to supply function to those that are paralyzed (Fig. 5).

It will be seen from the above description that the prevention of deformities lies in the early recognition of the causes and the adoption of methods designed to prevent their occurrence. In the early stages while the patient is bed-ridden these deformities arising from the force of gravity can be prevented by careful support of the affected part. Faulty attitudes which gradually become habitual postures with gradual shortening of the soft tissues can be prevented by emphasizing the importance of the recumbent position during the early stages. In paralysis of the extremities a firm bed with splints maintaining the joints in good functional positions will meet most of the essential principles of treatment. In paralysis of the spine or abdominal muscles support of the former is indicated by either a Bradford frame or a plaster bed, while for the latter an additional support may be required in the form of a corset or special abdominal belt.

When weight bearing has become desirable support by braces which hold the limbs in good functional position is essential. When this period of treatment has been reached the application of braces, however, must not be regarded as the end of the treatment for with careful massage and muscle training improvement may be noted over a period of years. Furthermore, it is only through their use and continued observation that the prevention of deformity can be successfully accomplished.

INFECTION OF THE JOINTS

In our series of joint infections deformi-

ties were very common and they appeared with equal frequency in tuberculosis, pyogenic infections and in cases of multiple arthritis. Commonly they arose from (1) failure to recognize the condition as a joint infection and (2) failure to use adequate preventive measures during the early stages of treatment.

While it is quite impossible in this brief discussion to dwell at length on differential diagnosis it seems best to give a few of the essential findings in all joint infections. These are swelling, tenderness, increased heat over the joint surface, limitation in motion with muscle spasm and fever. These findings are generally sufficient to warrant the diagnosis of joint involvement, but some difficulty may arise in differentiating between extra-articular and intra-articular infections. This difficulty may be readily overcome if we recall that in extra-articular infections the joint motion is limited in certain directions only, while all other motions are free. In intra-articular infections the motion is limited in all directions and is associated with muscle spasm. While other diagnostic aids, such as the X-ray, the examination of fluid or tissue removed from the joint, are often necessary in order to establish the etiology of the joint infection, the above simple tests can be used to ascertain the presence or absence of joint infection and thus enable the physician to prescribe early and basic methods of treatment.

These methods must provide measures for the prevention of deformities. Far too frequently the attention of the physician is focused on the treatment of the infection alone and the patient is allowed to hold the limb in the most comfortable position, which is usually one of deformity. This deformity becomes fixed by contracture of the soft parts and finally, in cases with joint destruction, by fibrous or bony ankylosis. The rule to be followed, therefore, is that in every case of joint infection ankylosis should be anticipated and consequently the limb must be immobilized with the joint fixed in the best possible position for future function. This is a fundamental principle of treatment in all joint infections, for while the presence of ankylosis is a distinct handicap yet ankylosis in deformity is a real calamity. These positions of maximum function in ankylosis do not appear to be widely known and it would seem to be of service to indicate them here. They will be described under the various joints as follows:

Shoulder. In shoulder joint infections, treatments with the arm fixed to the side will lead to most unsatisfactory results. In this

position the hand cannot be brought to the neck and face and many of the simple movements required in every day life cannot be performed. The position of choice in childhood is right angle abduction with the elbow slightly in front of the coronal plane of the



Fig. 7. Ankylosis in abduction, flexion and external rotation in pyogenic infection of the hip. Deformity preventable by traction and fixation of the hip in satisfactory position for future weight bearing.

body. If ankylosis occurs the hand can then be brought to the face by bending the elbow, pockets can be reached, hair brushed and a plate and cup can be picked up without spill-



Fig. 8. Position of the limb after correction by osteotomy and gradual bending of the callus.

ing the contents. In acute cases requiring bed treatment the arm can be fixed in this position by traction, while in ambulatory cases by the use of abduction splints constructed of metal or plaster.

Elbow joint. The faulty positions acquired in infections of this joint are either too much flexion or too much extension. In the former the patient has difficulty in reaching for objects and in carrying out many of the movements of daily routine. If the arm is too straight at the elbow he is unable to bring the hand to the face and neck. The position of choice, therefore, in most cases is fixation at just below a right angle. By bending the head the patient can bring the hand to the mouth, button his clothes and brush his hair.

This angle of fixation also permits him to reach across the table. Granted that with the elbow fixed at less than a right angle it is easier for the patient to get the hand to his face, the limitations in other directions more than counterbalance these advantages.

Wrist joint. All infections of the wrist joint should be immobilized in dorsiflexion for in this position the coordinated movement of the fingers is secured and the grasp of the hand is strong. Palmar flexion with ankylosis is a distinct handicap to the usefulness of the hand. In this position the strong flexors have the advantage over the extensors and in consequence the proper power in the finger movements is impaired. This position of dorsiflexion is best secured by a molded metal splint holding the wrist in palmar flexion. The straight board splint must be carefully avoided as it will lead to palmar flexion of the wrist and the typical flat hand with stiff joints which produces such a serious and usually permanent impairment of function.

Hip joint. In destructive lesions of the hip joint ankylosis should be secured in a position of slight abduction, slight flexion and slight external rotation. Abduction will take care of some of the shortening of the limb, while flexion will allow the patient to sit with comfort. The slight external rotation makes walking easier than where the toes are pointed straight forward.

The position of adduction, marked flexion and internal rotation, commonly seen in imperfectly treated tuberculosis of the hip, is a disabling deformity. The adduction interferes with free gait and the tilting of the pelvis upwards on the affected side in order to get the affected leg parallel to its fellow causes a practical shortening of the limb. The increased flexion gives rise to a marked lumbar lordosis. Another deformity of the hip is one of abduction, flexion and external rota-

tion occurring not infrequently in pyogenic infections of the joint. (Fig. 7) This deformity leads to an exceedingly awkward gait.

The best method of preventing these deformities, especially in painful stages, is by the application of double Buck's extension with weight and pulley traction. Traction relieves spasm of the muscles on the affected side while traction on the opposite leg is of great benefit in controlling the pelvis. This control of the pelvis is absolutely essential in preventing the development of deformity.

Knee joint. The position of choice for ankylosis of the knee in children is complete extension. While slight flexion is of service in mounting stairs and in sitting it should be remembered that ankylosis in joint infections in children is not always bony and therefore the angle of flexion may increase with weight bearing. Even when new bone is forming the process of complete consolidation is often slow and if the joint is placed in slight flexion the degree of ultimate flexion is often much greater than desired. The advantage of increased strength and stability insured by an extended joint will generally outweigh all other considerations. The method of securing immobilization in this position calls for the use of simple supporting splints or, in acute cases, splints with the application of traction.

Ankle joint. In ankylosis of the ankle the best position for function is right angle dorsiflexion and slight inversion. The opposite position of valgus and equinus is one associated with disability due to erroneous deflections of the ankle can be best maintained by supporting splints carefully molded to the leg, foot and ankle.

SUMMARY

1. Deformities occur with great frequency in crippling diseases of childhood.
2. In infantile paralysis and joint infections these deformities play an important part in the production of disability.
3. In infantile paralysis these deformities can be prevented by using support to the paralyzed muscles together with massage and muscle training.
4. Deformities in joint infections may be prevented by early diagnosis and by fixing every case with joint destruction in the best possible position for future function in case ankylosis ensues.

STATE CARE OF CRIPPLED CHILDREN*

ARCHER O'REILLY, M.D.
ST. LOUIS

In January, 1927, when this paper was conceived, nothing was being done by the state for the crippled children in Missouri. Since then a move in this direction has been made and I believe Missouri soon will be numbered among those states that have assumed the responsibility of the crippled child. The movement, however, is so recent that it may be advisable to review the conditions in Missouri, that they may be understood and that we may all lend our support.

At present we have no accurate data on the number of crippled children in the state. It has been estimated that there are between ten and twelve thousand. This is based on statistics from other states where they have run from two to four cripples per thousand of population. The ratio is higher in the rural districts than in the cities so that the number is probably much greater in the country districts than is generally supposed.

There is no serious crippled child problem in St. Louis or Kansas City. They have adequate hospitals, orthopedic surgeons and special schools for the crippled child, with adequate transportation facilities to and from the schools and the hospitals. They also have well organized social agencies to look after these children. The parents have been taught that the children can be helped and have seen the advantages of treatment. They seek the clinics of their own accord or the schools or social agencies send them to the clinics.

The problem is in the rural districts and is therefore much more serious and difficult. The parents for the most part are ignorant; to a certain extent they are afraid of doctors, hospitals, and especially operations, and most of them do not know that the deformed children can be helped. The parents must be educated and shown that the deformed child can be greatly improved by treatment. A survey is necessary to give a definite knowledge of the number of such children and their location, and a plan must be devised to secure treatment and education.

Up to the present time the facilities for treating crippled children in Missouri have been unsatisfactory, although some attempts have been made to find the children and secure treatment for them. The most extensive and most thorough of these

attempts has been the work of the Missouri Federation Women's Clubs during the last two years. Crippled children have been found and sent to Kansas City and St. Louis for treatment. Only a comparatively few of the many found, however, have been treated. The funds have been inadequate and the women in charge have had to work hard and surmount many difficulties. The expense of hospitalization has been borne by St. Louis and Kansas City hospitals. It is manifestly unfair to expect these cities to support and care for the crippled children from the entire state. The expense and time required are great because rehabilitation includes not only the hospital care, often the least important, but also the after care, physiotherapy, braces, etc., and, most important, education. This means months or years of careful attention. This expense should be borne by the towns and counties from which the children come.

In April, 1927, the Missouri Society for Crippled Children was organized. The society does not itself treat the child. Its object is to centralize and co-ordinate the work and, through its branches and executive secretary, assist other organizations and individuals who are interested in the rehabilitation of the cripple. It proposes to make a survey and to arrange clinics throughout the state with the co-operation of the local organizations. It will help to prevent duplication of effort and lost motion, but it must have the help and co-operation of all who are directly or indirectly interested in the crippled child. One of its functions is educational, to show the importance and economic value of proper care for the crippled child.

Such care is distinctly a state responsibility. The state cares for the blind, the tuberculous and the insane. Why should it not care for the crippled child? I shall not speak of sentiment and sympathy, though they are important, but shall consider the economic value of rehabilitation. The untreated crippled child is a liability, the treated crippled child is an asset. It is the duty of the state to convert the liability into an asset. The untreated cripple, especially in the rural districts, is usually unable to attend school, and with the more serious types of deformity is unable to do any great amount of physical work; as a result he is uneducated, incapable of self support, and must in most cases become a subject of charity, either public or private. About fifty per cent. of these children can be practically restored to normal by ortho-

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

pedic treatment and about twenty five per cent. of the remainder can be greatly improved so as to be completely or partially self supporting. These children, however, require not only operations but they also require careful after treatment in order to secure maximum improvement; and frequently, unless after care be intelligently directed the end result may be a failure. In addition to medical treatment they must be given a suitable education. This is one of the most important links in the chain of rehabilitation. With good education they can do work suited to their physical condition and at the same time earn good wages. Those children who are practically hopeless cripples, but who are mentally alert, will be made more happy if they have sufficient education to occupy their minds in some form of literary pursuit. In order to secure this education, special schools and special teachers must be provided. Most of the instruction must of necessity be individual and often, especially in rural districts, the teacher must go to the pupil. In addition to a good education the cripple must be given vocational training in order to secure the highest earning capacity.

The proper care of the crippled child takes a long time and is expensive. It requires the cooperation of the physician, the teacher and various social agencies, either state or private. The facilities for treatment and education must be near at hand or the child must be brought to them. The question and expense of transportation are very important. But though the expense is great the actual return on the investment is manifold.

The expense for the crippled child should be borne by the entire state just as it is for the blind, the tuberculous and the insane. The state through its departments can best coordinate the various steps necessary for such care.

Many of the other states have recognized this responsibility and have established some form of state care for crippled children. Missouri, I hope, will soon be in line with these. I have received answers to a questionnaire sent to all the states asking what the state government was doing in the care of crippled children. In the tabulation of these replies I have excluded all outside charitable work and have included only actual state care.

Twenty six states have some form of state care for crippled children. Three states give some attention to children as a side issue to vocational training for adults. Nineteen states have no provision for the care of crippled children. Many of these

states are in the West where the population is small and scattered and where the state revenues are small. A number of these rely on charitable institutions within the state or in nearby states. The form of rehabilitation employed in these twenty six states may roughly be divided into five types:

TYPE OF SERVICE IN TWENTY SIX STATES

1. The appropriation of money to be expended for braces, hospitalization, transportation, where necessary. The appropriation may be augmented by local contributions. The amount varies from a few thousand dollars to many thousands and is administered through the department of health or through a field worker.

2. The commission plan, in which there is a state commission appointed to look after the crippled children. The commission sees that clinics are held and that proper treatment is secured. The commission pays necessary expenses.

3. The zone system. The state is divided into zones. Orthopedic surgeons who live in these zones, or who will visit them at stated intervals, are appointed to hold clinics and treat the children. Provisions are also made for transportation and hospital expenses.

4. State hospitals. These states maintain one or more hospitals to which the children may be sent. In some states there is provision for transportation and for braces, etc. As a rule, there are no state clinics. Some of the states in other classifications also have state hospitals for crippled children but in these the hospital is only a part of the general scheme for rehabilitation.

5. The Ohio plan. This is probably the most elaborate and far reaching. The school authorities and other organizations are required to report all crippled children to the judge of the juvenile court of the district in which they live and also to the state department of health. The cripples must be examined by the health authorities to determine the amount of disability and the probable results of treatment. It is the duty of the juvenile judge to see that they receive treatment through the division of charities. The division of charities pays for treatment through a special fund and collects from the home county of the child. If the parents refuse to have the child treated the judge of the juvenile court may commit the child as a ward of the Division of Charities of the State Department of Public Welfare, and the child remains as a ward of the state until the treatment has been completed. There is a staff of competent orthopedic surgeons and a number of authorized hospitals throughout the state so that the child does not have to be sent far from home for treatment. There are also special provisions for the education of the crippled child.

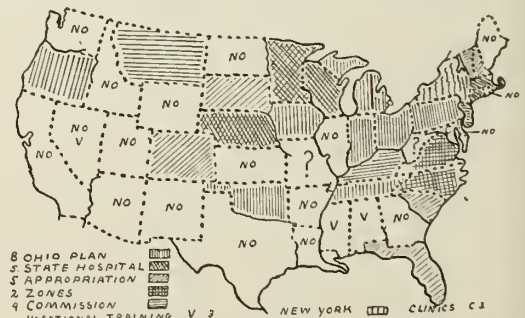


Fig. 1. Distribution of State Aid for Crippled Children.

The Ohio plan has been modified by the other states. In these the patient is sent to a state hospital either for crippled children or to the hospital of the state medical school. Commitment may be compulsory or voluntary. Provision is made for reporting crippled children, for their examination by physicians, appointed by the court, and for their transportation to and from the hospital. The hospital is also paid. The expense is borne either by the state or by the county sending the child.

New York State has a number of provisions in which the school districts, the health boards of municipalities, counties and the state, and various departments are involved. There is also a state hospital.

In Missouri, a joint commission has just been appointed by the legislature and the governor. The Commission is to study the problem and to report to the legislature at its next session, making recommendations. The legislature has also appropriated \$35,000 for the hospital of the State University at Columbia to be used for the care of the crippled children.

The Missouri Society for Crippled Children at present has a field worker from the International Society for Crippled Children studying the conditions in the state. The state society will shortly have an executive secretary at work and intends to begin a survey of the crippled children and to coordinate the efforts in their behalf. The society will cooperate in every way with the Commission. Good progress has been made and it will not be long before the crippled child of Missouri will receive the care and attention that it deserves.

No suggestions for state care can be made until the actual conditions are known, but we can all help by taking an active interest in the crippled child and in the work of the State Commission and in the Missouri Society for Crippled Children. We can help in the education of the general public by showing what can be done for the restoration of function, increased earning power, and in happiness.

The problem of the crippled child is such an important one both sympathetically and economically and requires the cooperation of so many departments for its successful solution, that it must be handled scientifically and solely for the benefit of the crippled child. It must be the duty of every citizen of the state to see that it is kept out of the maelstrom of politics.

Table 1. Legislation for Crippled Children.

This tabulation is based on replies to letters mailed in January, 1927, to all the states. There may have been some legislation since the replies were received. The source from which the information was derived is given after the name of each state.

Education is not included in this tabulation. Many of the states have definite provision for the education of the crippled child.

State and Authority	Synopsis of Type of State Care.
Alabama Dep't. Education	None.
Arizona Sec'y. State Med. Soc.	None.
Arkansas Sec'y. State Med. Soc.	None. Hope to get appropriation to help private hospital.
California Sec'y. State Med. Soc. Soc. for Crip. Child	None. Legislation pending.
Colorado Child Welfare Bureau, Dep't. Instruction.	Appropriation \$2200 a year. Administered by state worker. Patient treated in hospital or by specialist. Supplies braces, transportation, etc. Most of appropriation used in administration, extra money needed collected from organizations.
Connecticut Dep't. State Agencies and Institutions.	Newington Home for Cripples. Aided by state. No further information.
Delaware Sec'y. State Med. Soc.	None.
Florida State Board of Health	\$10,000 annual appropriation for indigent child under sixteen years. Work in local hospitals. Convalescent home of ten beds for tuberculous. Administered by orthopedic surgeon on State Board of Health.
Georgia State Board of Health	None.
Idaho Sec'y. State Med. Soc.	None.
Illinois Dep't. Public Welfare	None. Has a commission; not functioning.
Indiana University Hosp. "Care, Cure, and Educa. of the Crippled Child."	Riley Hospital for Crippled Children. Department of State University. Child may be committed by Judge of Circuit, Criminal or Juvenile Court, after public hearing which parents may be compelled to attend. Judge may appoint competent physician to examine child. Expense is paid by county.
Iowa Board of Control State Univ. Soc. for Crip. Child	Hospital of State Medical School. Child committed by Judge of Juvenile Court, at public hearing on complaint of doctor, teacher, public health officer, etc. Traveling, hospital, and other expenses paid by state.
Kansas Sec'y. State Med. Soc.	None.
Kentucky Crippled Child Commission	Crippled Children's Commission. Given in 1926, \$100,000 a year by state. Arranges clinics. Supervises treatment and pays necessary expenses.
Louisiana Sec'y. State Med. Soc.	None.

State and Authority	Synopsis of Type of State Care	State and Authority	Synopsis of Type of State Care
Maine Public Health Association	None.	Ohio Soc. for Crip. Child. Dep't Public Welfare	Cripples must be reported by School Enumerator in each school district each year. List sent to State Health Commission and Juvenile Judge of district. Must be examined by Health Commissioner or authorized orthopedic surgeon. Child may then be committed by Juvenile Judge; if parents object child may be made ward of state under Division of Charities to remain as such until treatment is completed. Expenses are paid from special fund and then collected from home county of child. State is divided into districts and treatment is given near home. Special laws for education.
Maryland Dep't. Health	Bureau of Child Hygiene holds clinics. Patients sent to Baltimore for private care.	Oklahoma State Univ. Hospital	State University Hospital for Crippled Children. Children, after hearing, may be committed by Juvenile Judge with consent of parents. Court may appoint a doctor to examine patients and pay a fee of \$5. Complaint may be made by doctor, health officer, nurse, teacher, etc. Transportation and other expenses paid by home county of child. Children may also be sent to other hospitals approved by the faculty of the state medical school.
Massachusetts Dep't. Public Welfare Report Mass. Hosp. School	Massachusetts Hospital School at Canton, also in some of the state hospitals for tuberculosis. No state clinics or provisions for commitments. State does not seem to pay other expenses.	Oregon State Board of Health.	State Hospital. Commitment similar to Oklahoma. Charges on county. May be sent to other approved hospital.
Michigan Dep't. Health Soc. for Crip. Child.	Hospital of the University of Michigan. Children may be committed by Judge of Probate from county in which they live.	Pennsylvania Dep't. of Welfare	Now building State Hospital for Crippled Children. Juvenile Court may on application commit a child to hospital for treatment. Expense paid by county, later collected from parents if they can pay. Orthopedic Unit organized under State Department of Welfare. Orthopedic surgeons of standing employed on a per diem basis. Hold clinics in districts for Red Cross, Rotary Clubs, etc., followed by nurse who gives follow up work. State is divided into centers for these clinics.
Minnesota State Board of Control	Gillette Hospital (State Hospital for Crippled Children). Do not seem to have any provision for commitment or for paying expenses.		
Mississippi Dep't. Education Dep't. Voca. Education	None. Does some work through State Vocational Board for Rehabilitation of Disabled Civilian Adults.		
Missouri	None. Has appointed a Commission to investigate. (Since this paper was written the legislature at 1927 session provided for care of crippled children at State University Hospital, Columbia. Hospital open for patients July 11, 1927. Expenses paid by state. \$35,000 appropriated for eighteen months. Child committed by county court after examination by physician appointed by court. Physician's fee \$5. For indigent children only. Age limit fifteen years.)		
Montana Orthopedic Commission	Orthopedic Commission, not paid. Three doctors appointed by medical society are paid \$25 to \$50 per operation. State appropriated \$16,000 a year for last two years. Commission pays for hospitals, surgeons, and braces, probably not for transportation.		
Nebraska Orthopedic Hosp.	Orthopedic Hospital in Lincoln. Patients pay for braces. No transportation.	Rhode Island Dr. Roland Hammond	None.
Nevada State Board Voca. Educa.	None. Children over fourteen come under care of State Board for Vocational training.	South Carolina Dr. W. A. Boyd in charge of work	\$10,000 a year appropriated. Full time nurse. Family must present an affidavit from two physicians of the county and from county treasurer that patients are indigent. Hospital expenses and transportation paid by the state.
New Hampshire State Board Char. and Correct.	Appropriation \$3,000 a year. Used to help private clinics and for education outside state.	South Dakota State Board of Health	\$4,000 annual appropriation. Administered under the Division of Child Hygiene. Pays for hospital and braces. Parents pay transportation.
New Jersey Dep't. Institu. & Agencies	Has Commission. No definite answer to letters.	Tennessee Dr. A. G. Nichol	Law based on Ohio, not being enforced.
New Mexico Dr. C. E. Lukens	None.	Texas Sec'y. State Med. Soc.	None.
New York State Orthopedic Hosp. Soc. for Crip. Child.	Has Orthopedic Hospital. Cases can be reported through various agencies; health, school, etc. Commitment by courts may be compulsory if deemed advisable. Expenses are paid by various state departments.	Utah Sec'y. State Med. Soc.	None.
North Carolina Orthopedic Hosp. Dep't. Public Institu.	State Orthopedic Hospital at Gastonia. State divided into zones with clinic and orthopedist in each. Patients may be treated in hospital or by Crippled Children's Commission or in the zone clinics. Administration is under the State Department of Vocational training.	Vermont Dep't. Public Health	Poliomyelitis Commission. Most of energy devoted to infantile paralysis. Clinics for this throughout state. Some other cases treated. Small state hospital.
North Dakota State T. B. Sanatorium	None.		

State and Authority	Synopsis of Type of State Care
Virginia State Board of Health	In 1925 appropriated \$25,000 a year. State divided into zones, one clinic in each zone. All cases referred to clinic treated, indigent cases free. Indigent cases may be sent to hospital of State University by Board of Health who pay expenses. In January, 1927, work was taken over by a special Commission for the Care of Sick Children. Expenses to be paid from a fund derived from a license tax on pistols.
Washington Dr. C. F. Eikenbary	None.
West Virginia State Board of Child. Guardians	None. Field worker under State Board of Children's Guardians. Commission investigating.
Wisconsin State Board of Health	Bradley Memorial Hospital, a branch of the State Medical School. Cripples when found are visited by a public health nurse and a field man of the State Board of Health. If child cannot pay is sent to Wisconsin General Hospital for treatment. County pays one half of expense, state the other half.
Wyoming Dep't. of Education	Some state aid. Also treatment in State Training School for Defectives.

3534 Washington Blvd.

DISCUSSION.

DR. ROBERT M. SCHAUFFLER, Kansas City: Speaking of Dr. Abbott's paper, these deformities of infantile paralysis are practically all preventable. In the cases of the severely afflicted children brought into the Children's Mercy Hospital at Kansas City, we spend one fourth to one half of the time that they are there overcoming the deformities which could have been prevented by any of you gentlemen if the children had been under your care and you had taken the trouble. I understand very well that many of the children were not under the care of any doctor. So you see we can take care of from one fourth to one half as many more children if we do not have to do all this backing up first. The child is in no condition to have exercises and is no condition to walk with braces. The child is in the hospital from three to six months before it is in a condition where we can consider putting on braces. The first part of your work is backing up to where you started. Then you have your paralysis still to overcome as much as you may, to educate the weakened muscles, to do any muscle shifting which is possible, and finally when the child is doing well in braces to try to get rid of the braces by internal stabilization.

No more important contribution could be made to those of us who are working with crippled children than to have you gentlemen personally, and by preaching to the teachers and the parents, help us prevent these deformities.

To a lesser degree you can prevent many of the deformities which come from osteomyelitis, from rheumatism and from the spastic paralytic cases. I will not say that you can prevent them all. There is in a spastic child an internal force which tends to deform; the muscles are unbalanced and it requires much attention and sometimes they will become deformed in spite of your efforts. With the infantile cases the deformities are preventable by sufficient, early and persistent care and you still have left quite a job for us from that point.

Help this Missouri Society for Crippled Children. Nobody can do as much for it as the group of men I am addressing here. Help the secretaries and the women's clubs that are working to find out about these children. Build up public sentiment for them. Then when we go before the legislature we will have your intelligent support behind us. If you ever interest yourselves in this work you won't do it any longer to please us, you will do it to please yourselves. It is one of the most interesting, one of the most inspiring things that you can do.

EXPERIMENTAL GASTRODUODENAL ULCER*

PRODUCED BY PARTIAL OBSTRUCTION OF THE DUODENUM

LEITH H. SLOCUMB, M.D.
ST. LOUIS

The etiological factors involved in the production of gastroduodenal ulcer are the subject of much investigation and although several hypotheses have been evolved these factors remain obscure.

There has always existed a certain amount of disagreement between the internist and the surgeon in regard to the treatment of these lesions. The internist feels that surgical procedures on the whole are too radical and the surgeon is of the opinion that medical measures are often carried beyond rational bounds. The reason for this difference of opinion probably lies in the fact that neither method of treatment yields entirely satisfactory results.

Further improvement in methods of treatment cannot be expected until there is a clear understanding of the causative factors involved in the pathogenesis of these lesions. Ulcer probably occurs more frequently than is generally supposed. There is evidence to this effect in the finding of many healed ulcers at autopsy although a history of the case may fail to reveal any previous indication of them.¹ This would seem to indicate that there is a greater tendency toward repair than toward the formation of a chronic lesion. Winkelstein² has shown that a lesion produced by resection of a piece of mucous membrane from a dog's stomach invariably heals within a few weeks.

There are many methods by which an acute ulcer can be produced experimentally; the difficulty has always been to produce chronic ulcer; therefore, the factors that are responsible for chronicity seem as important, if not more so, than those concerned

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.
1. From the Washington University Medical School, Department of Anatomy.

in the causation of the acute lesion. Our present knowledge of ulcer etiology is based upon conceptions embraced in several hypotheses, all of which show a wide divergence of opinion. Those cited below are the generally accepted theories of the present time.

THE CIRCULATORY THEORY

Virchow's circulatory theory depends for its concepts upon infarction of terminal blood vessels, with subsequent necrosis of the mucous membrane. Further injury is produced by the digestive action of the gastroduodenal fluids. Marginal jejunal ulcer following gastrojejunostomy has been cited as evidence favoring this theory. It has been pointed out that the circulation in usual ulcer sites is relatively poor because of the anatomical arrangement of blood vessels of these areas and that this arrangement favors infarction and embolism.

THE NEUROGENIC OR SPASMOGENIC THEORY

This theory was suggested by von Bergmann³. His conclusions were drawn from clinical observations upon ulcer patients. He observed a disturbance in the vegetative nervous system and believes that reflex irritation results in disharmony. This disharmony causes spasm of the gastric musculature and ischemia results. Disturbed function, both motor and secretory, follows and ulcer is the result. This ulcer acting as a constant source of irritation is given as the cause for chronicity.

Opposing this theory, Schmidt⁴ reports a series of thirty gastric and duodenal ulcer patients that show no difference from control cases as regards the vagus nerve. He therefore concludes that there is no anatomical basis for von Bergmann's theory.

THE INFECTION THEORY

The infection theory has for its chief sponsor Rosenow⁵. This investigator has studied the specific action of streptococcus of gastroduodenal ulcer and factors determining its localization. According to his investigations gastric lesions develop in a large percentage of animals, following intravenous administration of bacteria derived from foci of ulcer patients, or from the ulcers themselves. Gastric lesions also develop following the injection of the products of killed bacteria, though this with less certainty. To support further his claims of specificity, immunization experiments were carried out in which a considerable degree of immunity was established. According to Rosenow, Dr. Nakamura also produced ulcer with streptococci obtained from foci of den-

tal and tonsillar infection. Twenty three of twenty eight animals experimented upon developed gastric lesions.

Very recently Haden⁶ reported a series in which 1,500 rabbits were subjected to intravenous inoculation with bacteria derived from periapical dental infection. Although both investigators used the same technic, Haden's results do not seem to confirm completely those of Rosenow as regards specific gastric localizing tendencies.

THE INFLAMMATORY THEORY

Mascowicz⁷ has demonstrated an active gastric mucosal inflammation in specimens freshly resected from ulcer patients. He is of the opinion that the inflammation is a factor in the formation of ulcer rather than a result of it. This reverses our previous conceptions of the inflammatory process found accompanying ulcer.

MECHANICAL OR MOTOR FUNCTION THEORY

This theory was advanced by Aschoff⁸ and is known as the mechanical or motor function theory. He pointed out that most ulcers occur in the isthmus portion of the stomach, the so called *magenstrasse*. This is a channel or pathway along the lesser curvature of the stomach which shows a decided difference in the topography of mucous membrane folds, as compared to other parts of the stomach. In this area the folds assume a longitudinal character and seemingly extend from the esophagus to the pylorus. Aschoff is inclined to the belief that a circulatory disturbance (due to poor blood supply or spastic contraction of the vessels themselves) and the peculiar arrangement of the *magenstrasse*, are the etiological factors in the formation of ulcer. Baur⁹ believes that the structure and function of the *magenstrasse* suggest that it is the phylogenic rudiment of the gullet of ruminating animals, representing the welding of two organs, and that it is not well adapted to the function of a digesting stomach. The theory is interesting from a developmental viewpoint and may in part explain the seeming lack of resistance in this portion of the stomach.

THE ULCER DIATHESIS THEORY

Hurst¹⁰ recently discussed his ulcer diathesis theory. Connybeare and Campbell¹¹ have shown that a large proportion of healthy men with hyperchlorhydria have hypertonic stomachs. These individuals possess what Hurst designates as the hypersthenic gastric diathesis, an inborn variation from the average normal which manifests itself with hypertonus, active peristalsis, rapid evacuation and, in hy-

perchlorhydria, with digestive hypersecretion. In the average individual, undiluted gastric juice rarely enters the duodenum, but in the hypersthenic gastric diathesis type this does occur to a considerable extent; and if infection or intoxication, which he considers exciting factors, is present, ulcer is likely to develop in the duodenal bulb. He points out in a later communication that uncomplicated gastric ulcer is rarely associated with hyperchlorhydria and never with hypertonus. Hurst's theories are very instructive and throw considerable light upon the ulcer question.

It is apparent that from a purely theoretical point of view there is little agreement among investigators as to the cause of ulcer formation, nor is there any better understanding of the causes that promote chronicity.

A number of workers in this field have produced ulcers experimentally, using operative procedures planned to subject the mucous membranes of the stomach, duodenum and jejunum to gastric fluids, undiluted by biliary and pancreatic secretions. Mann⁷² and his co-workers have produced chronic ulcer in dogs similar to those found in the human stomach, by various short circuiting operations in which duodenal fluids are circumvented to a distal part of the ileum, thereby subjecting the jejunum to undiluted gastric fluids. With this technic, jejunal ulcer develops in a high percentage of the dogs operated upon. Kapsinow¹³ has succeeded in producing ulcer of the duodenum by a somewhat similar method in which the common duct is obstructed and the gallbladder anastomosed to the pelvis of the kidney. It should be noted that in the dog, some of the pancreatic ducts enter the duodenum separately from the bile duct. Dott and Lim¹⁴ perform pyloric occlusion and gastrojejunostomy with resulting jejunal ulcer in ninety per cent. of their experiments. Many others have produced experimental ulcer by similar procedures.

The above mentioned experiments seem to indicate that ulcer formation is due, in part, to the effects of undiluted gastric fluids upon mucous membranes not adapted to resist them. While extremely interesting, the artificial conditions produced by these methods are probably not analogous to those that accompany ulcer formation as found in the human stomach.

Frequent association has been noted between gastroduodenal ulcer and such conditions as chronic appendicitis, gallbladder disease, dental infection, pathologic tonsils, and various other so called focal infections. Eradication of such foci will often result in

relief from ulcer symptoms without further treatment. It is probable that these ulcer lesions are similar in pathology to those experimentally produced by bacterial inoculation. It is extremely doubtful whether a well established, chronically indurated lesion will disappear as a result of such simple measures as removal of distant foci of infection. It would appear that other factors come into play in the production of chronicity.

A survey of the literature shows that ulcer frequently accompanies partial obstruction and dilatation of the duodenum. This obstruction may result from kinking at the duodeno-jejunal flexure, congenital peritoneal bands, pathologic adhesions, or pressure from the overlying mesentery and superior mesenteric vessels. Pressure from the latter source has been cited as the underlying cause of acute dilatation of the stomach. In a recent communication by the writer,¹⁴ this condition has been described and the literature relating to the subject reported. Among those who have written on chronic duodenal obstruction are: Codman,¹⁵ Staveley,¹⁶ Wilke,¹⁷ Kelloggs,¹⁸ McKenty,¹⁹ Villette,²⁰ Devine,²¹ Mummery,²² Miller and Brown²³ and many others. Wilke¹⁷ reported eleven cases, three with duodenal ulcer and one with gastric ulcer. Hurst and Briggs²⁴ described a case, in which ulcer of both stomach and duodenum were present. Roland²⁵ reports a case of gastric ulcer associated with chronic duodenal ileus. Two cases are reported by Jones²⁶ both of which had ulcer of the duodenum. Ryle²⁷ made note of a case in which the ulcer perforated. Higgins²⁸ reported fifty seven cases of chronic duodenal ileus, five of them with ulcer. Many of this series were not subjected to operation and possibly the percentage of associated ulcer may have been greater. Sloan²⁹ operated upon sixty four ulcer patients, all of them having some form of duodenal stagnation. Many others have described cases in which duodenal obstruction and gastroduodenal ulcer are associated.

There is little doubt that in certain individuals pressure upon the duodenum by the mesentery and superior mesenteric vessels causes definite symptoms and there is a sound anatomic basis for this.

COMPARATIVE ANATOMY OF THE DUODENUM

Attention is directed to a comparison of the anatomical relations of the duodenum as found in the upright human and that which obtains in quadrupedal mammals such as the pig or dog. Anatomically, the duodenum in man is peculiar, in that it is largely retroperitoneal and is quite firmly fixed by this peritoneal relationship. This fixed position is further

strengthened by the ligament of Treitz, which is a musculofibrous band extending from the lumbar part of the diaphragm to the terminal part of the duodenum. The duodenum is C shaped and its concavity is occupied by the head of the pancreas with its uncinete process.

The superior mesenteric artery springs from the aorta and proceeds vertically downward, passing between the head of the pancreas and its uncinete process to emerge from beneath the transverse mesocolon. (Fig. 1) Here it

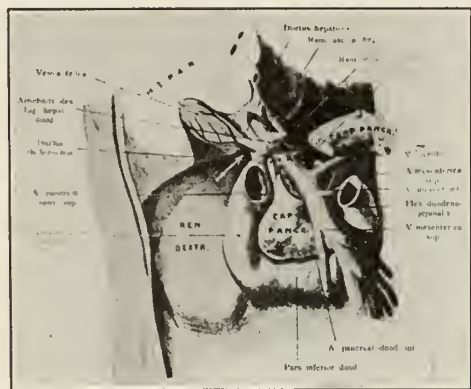


Fig. 1. Anatomical relations of the duodenum in man. (From Textbook of Topographical Anatomy, H. K. Corning.)

enters between the layers of the mesentery and passes over the transverse portion of the duodenum, being very closely applied to it. The superior mesenteric vein occupies a position immediately to the right of the artery and joins the splenic vein behind the head of the pancreas to form the portal vein. The innervation of the small intestine is from the sympathetic system, through the superior mesenteric ganglion. This is situated dorsal to the superior mesenteric artery. Nerve fibers are also received from the right vagus. The nerves follow the blood vessels and ultimately end in the plexuses of Auerbach and Meissner in the intestinal wall.

The small intestine (in man) is suspended from a vertical posterior abdominal wall by the mesentery and must depend for further support upon the pelvic floor, which does not seem adapted for this purpose. In certain individuals this arrangement apparently results in compression of the firmly fixed transverse portion of the duodenum by the mesentery and the superior mesenteric vessels. Any considerable compression at this point might contribute to interference with the circulation of the small intestine as well as with its lymphatic drainage and nerve supply.

From a mechanical viewpoint this anatomical arrangement seems poorly adapted for gastro-intestinal function as compared to that in certain quadrupedal mammals. In animals

such as the pig or dog the duodenum is a free peritoneal loop within the abdominal cavity, not fixed in position by the peritoneum and not situated so that it can become compressed by the mesentery or the superior mesenteric vessels. The small intestine is suspended and derives support through the mesentery and also from a horizontal abdominal wall apparently adapted to this purpose. When the animal lies down further support is gained by the abdomen resting upon the ground.

The effects of upright posture have been cited and discussed from both practical and theoretical standpoints. Keith³⁰ points out that anatomists no longer regard postural adaptations of the human body as a transformation peculiar to man, but rather the culmination of a series of evolutionary changes.

DUODENAL PHYSIOLOGY

The duodenum probably has a specialized function; when complete data concerning motility is available much will have been accomplished toward a solution of the ulcer problem.

Spencer, Meyer, Rehfus and Hawk³¹ have noted reverse peristaltic waves in the duodenum and believe they serve a definite purpose in the process of digestion. Wheelon³² has observed certain symptoms accompanying duodenal retention and that these symptoms are relieved as a result of reverse peristaltic waves and regurgitation into the stomach. Valle and Donovan³³ report stasis in the duodenum in fifty per cent. of their peptic ulcer cases. Alvarez³⁵ has observed reverse waves in the pars pylorica, and stagnation in the duodenum following experimental partial obstruction low in the bowel.

A certain delay in the passage of material through the duodenum may serve a normal purpose, but it seems improbable that prolonged delay in this portion of the gastro-intestinal canal serves such a purpose.

Because of the frequent association between ulcer and duodenal obstruction, the peculiar anatomical position of the duodenum, and certain recent observations relating to physiology, the writer thought it worth while to determine experimentally the effects of partial duodenal obstruction over different periods of time. Several methods of obstructing the duodenum were tried only two of which were found to be successful in giving partial obstruction over any considerable period of time. In this series two types of operation were used. In one the duodenum was doubled upon itself and sutured in such a way as to present a flattened S shaped curve, the result of which was partial obstruction amounting to 75 per cent. or more. (Fig. 2) The other consisted in

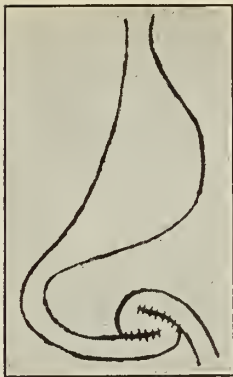


Fig. 2. Method of obstructing duodenum in the dog.

taking infolding tucks in the long axis of the bowel. The latter operation was not as efficient as the former. This series consisted of sixteen dogs; the earliest autopsy was performed four days after the operation, the latest, 145 days following. Reference to the table will show the results obtained. (Table 1)

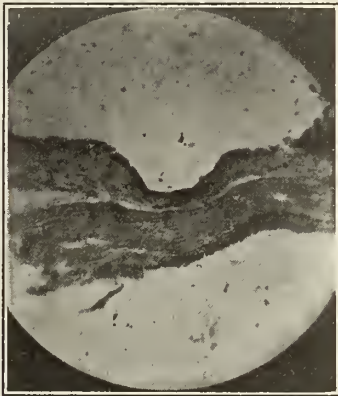


Fig 4. Low power microphotograph of one of the ulcers shown in Fig. 3.

Table 1. Showing results of obstructing duodenum in the dog.

Dog	Days	Ulcer		Inflammatory		Obstruction	Operation
		Duod.	Stomach	Duod.	Stomach		
2	4	No	No	No	No	No	S
1	5	Yes	No	Yes	No	Yes	S
3821	5	No	No	Yes	No	Complete	S
4809	9	Yes	No	Yes	No	Yes	Infolding
5819	14	Yes	No	Yes	No	Yes	S
30	17	Yes	No	Yes	No	Yes	S
4816	22	Yes	Yes	Yes	Yes	Yes	S
3811	23	Yes	No	Yes	No	Yes	Infolding
5813	26	No	No	No	No	No	Infolding
0812	27	Yes	No	Yes	No	Yes	Infolding
5808	39	Yes	No	Yes	No	Yes	Infolding
0815	48	No	No	Yes	No	Slight	Infolding
5810	90	Healed	No	Yes	No	Slight	Infolding
5822	97	Yes	No	Yes	No	Slight	S
30	141	Yes	No	Yes	No	Yes	S
10	145	Healed	No	Yes	No	Slight	S

Twelve dogs showed definite ulceration of the duodenum. (Fig. 3) Of the twelve, one had ulcers in both stomach and duodenum. Of

both of these there was present a compensatory dilatation at the site of the obstruction; in other words, the ulcers had healed as soon as the lumen of the duodenum became unobstructed.

The ulcers were usually multiple though at times only one or two were present. They were round, oval or linear in form, some of them penetrating to the serosa. (Fig. 4) They showed a marked tendency to locate on the right side of the duodenum, most of them well above the site of the obstruction.

Definite inflammatory change in the mucosa of the duodenum was present in fourteen of

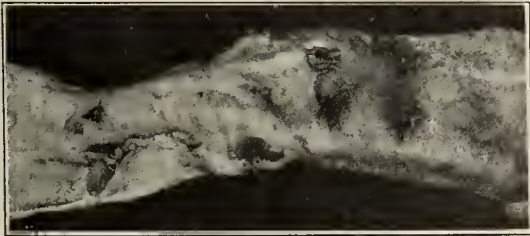


Fig 3. Multiple ulceration in partially obstructed duodenum of dog, 39 days.

the series and this change was usually rather marked. (Fig. 5)



Fig 5. High power microphotograph of ulcer shown in Fig. 4.

This series is too small from which to draw definite conclusions, but in view of the results obtained from these experiments, it is the belief of the writer that stagnation of the gastroduodenal fluids plays an important part in the etiology of gastraduodenal ulcer.

CONCLUSIONS

1. Partial obstruction of the duodenum of a dog will cause ulceration of the stomach or duodenum in a large percentage of cases.

2. These ulcers are similar in character to acute ulcers as found in the human stomach.

3. In view of the peculiar position of the duodenum in man, it seems reasonable to believe that obstruction occurs more often than is generally believed.

4. Because of the associated frequency of ulcer and duodenal obstruction as noted in the literature, and the evidence presented by the above experiments, close examination of this region at the time of operation seems of importance.

5. Failure to examine the duodenum carefully at the time of operation may in part explain the high percentage of surgical failures in this field of surgery.

In conclusion, I wish to thank Dr. R. J. Terry, Professor of Anatomy at Washington University, for his kind interest and many valuable suggestions; and also Mr. W. E. Ossenfort, Mr. P. I. Robinson and Mr. E. L. Burns, for their assistance and help with the laboratory work.

915 Missouri Bldg

DISCUSSION

DR. R. B. H. GRADWOHL, St. Louis: I have seen Dr. Slocumb's work and have seen the gross anatomical changes in the duodenum and the microscopic changes. He has undoubtedly consistently produced ulcers by the obstructive operation which he has per-

formed. I believe he has gone some distance in clearing up this etiology. Therefore, his work should be watched with a great deal of interest, and it is hoped that it will be repeated by other observers.

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TRANSFUSION

MEDICAL ASPECT ONLY

LEO J. REILLY, M.D.

ST. LOUIS

The primary object of this paper is more or less a resume of the advantages of blood transfusion from a medical aspect. It is somewhat difficult to keep entirely within the limitations of this title because usually transfusion is merely a therapeutic adjunct. More important, of course, is a diagnosis of the specific blood pathology present in order that the etiological factor be determined, in which case the importance of other therapeutic measures may be stressed.

Transfusion is a scientific accomplishment of recent years, feasible only in well

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

equipped hospitals but of great importance to the general practitioner. Therefore it is necessarily important to know in what forms of disease this measure may be used to advantage. The indications for blood transfusion may be grouped under the following headings:

The Anemias. Primary.

(1) Pernicious anemia.

(2) Chlorosis.

Secondary Anemia. (a) Hemorrhage.

(1) Hemorrhage purpura.

(2) Gastric ulcer.

(3) Duodenal ulcer.

(4) Malignant growths.

(5) Tuberculosis.

(6) Hemophilia.

(7) Uterine hemorrhage.

(8) Intestinal parasites.

(b) Toxic.

(1) Typhoid fever.

(2) Tuberculosis.

(3) Malaria.

(4) Acute infections of any kind producing hemolysis of the blood.

(5) Bilateral pyelitis in children.

(c) Miscellaneous Indications.

(1) Eclampsia.

(2) Scarlet fever.

(3) Measles.

(4) Diabetic acidosis.

(5) Various mineral poisonings.

(6) Carbon monoxide poisonings.

PERNICIOUS ANEMIA

The advantages of blood transfusions in pernicious anemia have been known for some time and probably no group of cases so classified have experienced greater benefits. However, the advantages are distinctly limited and transfusions are usually given simply as an emergency measure to produce a prolongation of life. It is generally believed that blood transfusion induces remissions in this fatal disease.

Repeated transfusions must be resorted to in order to obtain and maintain satisfactory results. The number of transfusions required of course varies with the severity of the case and after transfusions have been resorted to, in any given case, any diminution of the number of red blood cells should be considered as indication for another transfusion. I am acquainted with the following case the more important details of which I shall cite. I believe that it contains sufficiently important facts to be mentioned here.

REPORT OF CASE

Mrs. M. L. N., aged 50. First consulted physician six years ago complaining of gastric disturbances

and loss of weight (20 lbs. within four to five months) with accompanying loss of strength, and pains in lumbar muscles and myalgia of legs and feet.

At that time red count was 3,920,000, hemoglobin 80 per cent. Smears showed no abnormalities. Stomach contents: No free hydrochloric acid, lactic acid; microscopically, no Oppler-Boas bacilli. Normal microscopic contents.

Patient placed upon hydrochloric acid and symptomatic treatment for constipation. Improved for a time but finally improvement became stationary. Thirteen months later developed fine tremor of head, with tingling sensation throughout legs. Red count was found to be 2,630,000, hemoglobin 56 per cent. Patient received three transfusions following which she felt much better. However, hemoglobin and red count remained about the same after these three transfusions.

She was continued upon hydrochloric acid with a high vegetable diet and eight months later hemoglobin was 78 per cent., the red count was 4,300,000, and her general condition was markedly improved.

Two months later red count was 3,730,000 hemoglobin 70 per cent. No change in her general condition at that time; patient felt very good though tingling sensation throughout extremities continued together with tremor of head. Red count continued around 3,500,000, with hemoglobin 70 per cent. for the next two or three months. Red count then dropped to 2,900,000, hemoglobin to 60 per cent. (within about two months' time.) Patient seemed somewhat on the decline. Count became as low as 1,690,000, hemoglobin 37 per cent. within six to seven months. Patient was transfused then left city and was absent for two months, improving greatly. On her return red count was 2,950,000, hemoglobin 58 per cent. Entered hospital four months later when blood count kept decreasing. Remained in hospital for three months during which time she had eight transfusions without reaction. Red count was raised to 4,000,000. However, it did not remain at this point, soon dropping to 2,800,000, hemoglobin, 62 per cent. at which point the blood picture findings have remained to date.

Treatment, in addition to transfusions, has consisted of dilute hydrochloric acid, two teaspoonfuls after meals, a high vegetable diet, and within the last year she has been eating large quantities of liver. Weight has increased 60 pounds within the last five months, thereby increasing symptoms in extremities caused by cord lesion.

CHLOROSIS

Chlorosis, and idiopathic blood disorder, producing an anemia as its major symptom but, of course, associated are all the other symptoms of an anemia. This condition, peculiar only to women between the ages of 12 and 24, is rapidly becoming rare in this country. The blood findings in this disease do not resemble those of pernicious anemia and transfusions are never indicated unless iron and other therapeutic measures have been unsuccessful.

SECONDARY ANEMIA

The indications for blood transfusion in secondary anemia, as outlined earlier in this paper, are very numerous but time does not permit of a lengthy discussion of any

particular phase. The advantages of transfusions, in a great majority of these conditions producing a secondary anemia, are exceedingly striking but because all these cases are known to have a distinct etiology, more important than the transfusion is the determination of the causative factor and the removal of that cause.

Too much stress cannot be laid upon the importance of routine blood work as a means of diagnosis, because by this means very often hidden disorders are brought to light. The practitioner therefore should fully acquaint himself with all the symptoms and manifestations of anemia and suspect it in all such cases not reacting favorably to ordinary curative measures. Among the more important conditions classified as secondary anemias that could be mentioned here are the intestinal parasites, hemophilia, gastric and duodenal ulcers. In the parasitic cases the blood findings, especially in prolonged conditions, resemble very closely those of pernicious anemia. Very often the diagnosis is made only in the laboratory. The presence of anemia in slowly bleeding ulcers and malignant growths of the gastrointestinal tract often aids greatly in making the diagnosis, because in many of these cases the blood in its intestinal course becomes decomposed and is passed unknown to the patient. In the remaining cases classified under secondary anemias, such as hemorrhagic purpura, melaena neonatorum, hemorrhages from tuberculosis, uterine hemorrhages and prolonged nasal hemorrhages, the diagnosis is comparatively easy. Many of these cases will recover without transfusion due, of course, to the regenerative powers of the blood forming organs. But the advantages of a blood transfusion are great in many of these, not only for preservation of life but also from an economic standpoint. The etiological factor being removed, in some of these severe cases recovery is often much delayed primarily because of slow production of new blood. Probably no conditions are characterized by more striking results than when a transfusion is resorted to. It always gives new life to the blood and more oxygen carrying erythrocytes. Recovery is often almost immediate. Repeated transfusions are very often indicated in the severe cases, while a single one often produces the desired results in milder cases.

In hemorrhagic diseases of the new born, irrespective of the etiology, there is always associated a delayed coagulation time. Transfusion very often produces striking results, not only replacing the blood lost but

in most cases further bleeding stops. (Its action seems specific and often truly marvelous—Holt.) The amount of blood transfused may be anywhere between 50 and 100 cc., and of course may be repeated. I report an interesting case of secondary anemia.

REPORT OF CASE

Patient, female, aged 24 years, married, entered City Hospital, St. Louis, October 25, 1926. Chief complaint on entrance, prolonged uterine hemorrhage. The present illness dated back three months following childbirth. At the time of delivery she bled profusely and has hemorrhaged intermittently since that time.

Physical examination. Well developed, slightly emaciated, young adult female, presenting a characteristic yellowish lemon tint of the skin and exposed areas of the body. Head negative. Conjunctiva pale. Mouth, mucous membranes and tongue anemic. Neck, marked pulsations of both carotids with a soft systolic thrill palpable. Chest: Lungs essentially negative. Heart, apex beat in 5th interspace, full, bounding and diffused. Left heart border displaced outward almost to anterior axillary line. A loud systolic murmur heard over the apex and base, axilla and vessels of the neck. Abdomen: Spleen palpable, tender and firm. Liver edge palpable, slightly enlarged. No appreciable amount of free fluid in the abdomen. Extremities: No edema at the present time.

Blood pressure 135/50. Wassermann negative. Urine negative.

October 28, R. B. C. 645,000, Hb. 60 per cent. Smear showed poikilocytosis and anisocytosis. There were no nucleated cells.

Patient did not present typical symptoms of pernicious anemia nor were the blood findings typical.

Diagnosis at the time was either (1) secondary anemia or (2) pernicious anemia.

From November, 1926, to January 4, 1927, five transfusions were given with cessation of uterine hemorrhages and marked increase in general condition, and considerable increase in number of R. B. C. and hemoglobin.

January 4, red cells 1,805,000; white cells 3,200. Hemoglobin 70 per cent. Patient showed great improvement; uterine hemorrhages stopped; has gained strength and weight; up and about ward. Patient discharged from the hospital January 15, 1927, shows marked improvement.

Summary. Patient was under our care for three months during which time she had five transfusions (including one before admission). A most probable diagnosis of an anemia secondary to a prolonged hemorrhage, although a pernicious anemia was considered on entrance. Under the above treatment she showed marked clinical improvement, an increase in R. B. C. count of over 1,000,000, gain in weight and strength, cessation of uterine hemorrhages and was discharged greatly improved.

THE TOXIC CONDITIONS AND DEBILITATING STATES

All toxemias to a varying extent are associated with a more or less degree of anemia caused by hemolysis of the R. B. C. The advantages of blood transfusion in cases thus classified vary with the specific disease. In general, it may be said that transfusion is

given primarily with the purpose of diluting toxins, especially in such cases as typhoid fever, advanced pulmonary tuberculosis, malaria, scarlet fever, diphtheria and bilateral pyelitis. Particularly is this true in streptococcus hemolyticus, in which cases gratifying results have been obtained. The results in general are not as satisfactory as one would believe they should be, but in many cases satisfactory changes are produced because transfusion seems to give patients an added impetus which is so often essential in gaining control of the ravaging toxins, and simultaneously inciting greater resisting powers. Adult blood given to children with a bilateral pyelitis seems to produce very favorable results, the reason being that the adult blood contains greater resisting powers.

LEUKEMIAS

As a general consideration, these cases are transfused late and then only as an emergency measure. The course is fatal and relatively rapid so the benefits derived from transfusions are extremely transitory.

MISCELLANEOUS

There are some indications for a blood transfusion that have come up in recent years that cannot be exactly classified and therefore I mention them under the miscellaneous grouping. Probably an immunological heading would be more appropriate, at least in some cases, because convalescing serum is enjoying a fairly active part in present day therapy. This therapeutic measure has probably been used more in scarlet fever than in any other disease. However, the past two years have produced a serum both prophylactic and therapeutic for scarlet fever that has been used to a greater advantage than the convalescing serum, which was obtained from a convalescent patient and injected intravenously or intramuscularly in varying amounts from 100 to 300 cc.

Convalescing serum from eclamptic patients has been given intravenously to patients in severe eclampsia apparently with much success. Ten such cases have been reported by Dr. J. J. McMann, of New York, and while he does not give any specific reason for his favorable results they can probably be attributed to stimulation of the patient's resistance.

Among other toxic states that should be mentioned here, an exceedingly important one is poison from illuminating gas, in which condition the oxyhemoglobin is converted into carbon monoxide hemoglobin

which is incapable of carrying oxygen for respiratory purposes. Transfusion in these cases if given early is often a specific remedy and should always be given when facilities make it possible.

Two other forms of poisoning in which transfusions are considered of great assistance are benzol and nitrobenzol poisoning. The advantages are limited here but a transfusion in either case should be given as a therapeutic adjunct. However, these cases are infrequent outside of industrial centers and consequently the general practitioner rarely meets with this problem.

In conclusion it seems important to state some of the contraindications to transfusion. Probably among the more important ones are cardiac decompensation, hypertension, arterial sclerosis and any condition in which cyanosis is a manifestation. The pneumonias are likewise considered in this category and one would believe that to give a transfusion in pneumonia might be considered heresy. I am indebted to Drs. Harry Alexander and W. G. Becke, of Barnes Hospital Staff, St. Louis, for the following case:

REPORT OF CASE

Mr. C. N., 30 years of age, developed an acute pneumonia in the right lower lobe 24 hours previous to admission to the hospital. On entrance to hospital the patient was delirious, had a temperature of 104, respiration 30, white blood count 6,500. A positive blood culture was obtained which proved to be Type II pneumococcus. The general status of the patient continued to grow worse with no increase in the white blood count and on the second day the patient was given 500 cc. of whole blood, the donor being a healthy individual who had never had pneumonia of any type. Within six hours after the transfusion the patient became rational and by the end of twelve hours he was 100 per cent improved, rational and a temperature of 101°. Convalescence was rapid. It must not be forgotten that 30 per cent. of Type II pneumonias prove to be fatal. It would be unfair to fail to state that at no time did the patient have any cardiac embarrassment. The fact that the white blood count was as low as it was, and remained so, proved exceedingly poor resistance. Whether a transfusion would be indicated had the white blood count been up in accordance with the temperature, I am unable to state.

CONCLUSIONS

1. The advantages of blood transfusion as a therapeutic adjunct in nearly all fields of medicine is rapidly gaining wide recognition.

2. Especially in primary anemias as a means of prolonging life.

3. As a specific curative measure in a majority of the secondary anemias.

4. As a means of diluting toxins in the acute infections and toxic states.

5. As an immunological factor in the cases where convalescing serum is indicated.

6. The contraindications are such conditions as acute cardiac disease, arterial sclerosis, pneumonia, hypertension and any condition having cyanosis as a manifestation.

1203 Missouri Building.

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SURGICAL INDICATIONS FOR BLOOD TRANSFUSION*

C. A. VOSBURGH, M.D.

ST. LOUIS

In this discussion I shall confine my remarks to the application of this procedure as a prophylactic measure before operation and as a measure of combating the ill effects of blood loss from hemorrhage.

While blood transfusion has been performed by surgeons for many years, it was only after the work of Jansky and Moss in classifying blood groups, thereby largely eliminating the danger, that its popularity has grown so that now it is in regular use in most clinics and hospitals.

The technic of the operation has undergone many changes. The old direct method of vessel to vessel required a skilled operator and a complicated technic. The emergency of the late war resulted in the development of a simple technic and did much to popularize transfusion. Modern methods have not only eliminated the danger, but have so simplified the technic that our interns after short training do it regularly as a routine in indicated cases. One of the reasons why it is not done more generally is the difficulty of obtaining donors when needed.

I recently was called to operate on a wounded man in a splendidly equipped hospital in a small town in Missouri. The patient was exsanguinated from massive hemorrhage. There had been no blood typing done locally and there were no known blood groups available. Several hours elapsed before a universal donor could be rushed one hundred miles from the city.

INDICATIONS

While massive hemorrhage still holds first place as an indication for transfusion from a surgical standpoint, experience has shown that many other conditions are much benefited by the procedure. It is not a complicated process to be resorted to only in the gravest cases and as a last resort, but a therapeutic measure simple of application and positive in results.

Since the work of Bernheim, Unger, Moss and others in simplifying and removing the danger from transfusion, the field of indication has been extended until now we recognize its value not only in combating the danger of grave hemorrhage, but many surgeons are resorting to a preliminary transfusion in cases depleted by disease before performing a necessary surgical procedure. It is our practice to transfuse patients before operation in which the danger of hemorrhage is great and in which there is a grave surgical hazard.

Frequently minor surgical operations are required in persons who have been suffering from some exhausting disease and in whom even a simple procedure is attended with grave risk. In such cases a preliminary transfusion is ideal to give the temporary stimulation needed and in providing for any blood loss before it occurs. A recent experience illustrated this point.

A patient with a massive fibroid was referred for operation. There had been much uterine bleeding for three months. Physical examination showed a large mass firmly adherent filling the pelvis and extending to the umbilicus. There was a history of inflammatory attacks indicating that adhesions would be encountered and that the operation would be difficult. Red cells, 3,200,000; hemoglobin, 55 per cent.

Five hundred cubic centimeters of citrated blood were given and on the following morning the growth was removed. Hemorrhage was moderate, no serious shock followed and no grave operative complication developed.

Operations of this sort are attended usually with much bleeding, a consequent loss of blood volume and oxygen carrying power, and with severe shock. We feel that a preliminary transfusion in conditions of this type reduces the operative risk and adds much to postoperative recovery. It is infinitely better to give the transfusion before the hemorrhage and shock occur and avoid these complications than to combat them after they arise. We believe a preliminary transfusion to be indicated in cases of persistent uterine bleeding which have resulted

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-3, 1927.

in a low red cell count with low hemoglobin.

No definite information is possible on the amount of blood a certain individual can lose without showing bad effects. We do know, however, that the amount of blood lost in major surgical procedures usually exceeds our estimate.

Gatch and Little, of Indianapolis, conducted some investigations to determine the amount of blood lost during different surgical operations. They collected all gauze and sponges used, washed them to recover the blood and determined the amount by calorimeter estimates. While there is an uncontrollable error of 3.5 per cent., some interesting data were obtained which fit with the observation of others. Under the observations of Gatch and Little they found that (1) an average hysterectomy showed a blood loss of 300 cc., (2) radical breast amputation a loss of 700 cc., (3) nephrectomy a loss of 816 cc.

While these amounts in perfectly healthy individuals would probably produce no serious symptoms, when such bleeding occurs in patients who have already lost considerable blood during the progress of the disease and in whom the volume and the oxygen carrying power are already low, the additional loss may produce a grave danger. It is much safer to transfuse before operation and raise a low volume and pressure as nearly as possible to normal before adding the additional load of pain, hemorrhage and shock.

IN HEMORRHAGE

If the hemoglobin goes below 45 per cent. and if the red cell count shows less than 2,500,000, transfusion is indicated. This condition of the blood may follow hemorrhage from any cause and may be an immediate result of massive hemorrhage, or may be gradually produced, as by bleeding from a gastric ulcer, uterine fibroid, postoperative bleeding, placenta previa, etc.

The introduction of 500 to 750 cc. of blood will be followed by a rise in pressure, increase in red cells per cubic millimeter and, in cases of slow bleeding, a change in the coagulation time which is also of great importance in controlling additional bleeding.

SHOCK

Not infrequently, after complicated operations requiring much time and manipulation in which much bleeding occurs, the patient develops the condition of shock. While there is still some difference of opinion regarding the mechanism concerned in

the production of shock, repeated observations have shown that a transfusion raises the blood pressure, stimulates the heart and adds oxygen carriers. These changes are the desired ones.

In the bleeding of gastric or, duodenal ulcer transfusion meets two important requirements. It produces thromboplastic material in the recipient thereby aiding coagulation and arresting further bleeding; and it supplies volume thereby compensating for the blood lost.

Operations are frequently required in persons suffering from obstructive jaundice.

Bile products in the blood stream prevent coagulation and not infrequently much postoperative bleeding from small vessels occurs. This bleeding added to the shock of operation produces a serious surgical complication. If a preliminary transfusion is given, the coagulation time is diminished and the danger of postoperative hemorrhage much reduced.

METHODS

There are three accepted methods of transfusing: (1) The Citrate, indirect. (2) The Unger, direct. (3) The Scannell, direct.

COMPLICATING REACTIONS

Certain reactions are experienced in all the methods. The citrate method is the one most generally employed and probably a greater percentage of reactions occurs with this than with the direct method.

Of prime importance is correct typing. If an error is made in the selection of a donor a reaction is practically certain and a grave one a probability.

For the slight reactions, consisting of a chilly sensation, a moderate elevation of temperature, some restlessness and anxiety, no fear should be had as such phenomena are transitory and unimportant. However, for the severe chill with high temperature, air hunger, and rapid respiration, immediate stimulation should be used. This type of reaction while alarming terminates usually in 20 to 30 minutes. The exact cause of this severe reaction in matched types is not clearly understood. Hemolysis, which is the complication most feared, does not occur.

The mild reactions of the citrate method are produced by the effect of sodium citrate on the blood. It has been demonstrated that the drug in the concentration necessary to prevent coagulation destroys the blood platelets and thereby releases toxic products.

BENEFITS

The benefits we may expect from transfusion are: (1) Rise in blood pressure; (2) increased hemoglobin; (3) increase in red cell count per cubic millimeter; (4) increase in coagulability.

The blood pressure rise is due to the increase in volume and the consequent stimulation of the pressure-regulating mechanism.

The increased hemoglobin to the addition of red cells with their oxygen carrying power.

Investigations have proven that the addition of a foreign serum to the blood stream produces the formation of thromboplastic material which aids coagulation and reduces the clotting time.

CONCLUSIONS

As a result of our experience and observation it is our opinion that:

1. Blood transfusion is simple and can be done without danger.
2. Citrated blood is the method of choice because of its simplicity.
3. Transfusion should be done before operation in poor surgical risks.
4. Transfusion increases the coagulability of the blood and is serviceable in treatment of persistent hemorrhage.
5. Every hospital should have a list of donors available for emergency.

832 Metropolitan Bldg.

BLOOD TRANSFUSION*

LABORATORY ASPECTS

R. B. H. GRADWOHL, M.D.

ST. LOUIS

The laboratory aspects of blood transfusion have been assigned to me as part of this symposium on blood transfusion. We assume that this means first, a description of the various points connected with the determination of blood compatibilities; second, a description of the various methods of making these transfusions. Such a description would not be complete, however, without a few words on the history of the development of blood transfusion in the practice of medicine. We shall, therefore, give a few historical aspects from the time that blood transfusion was first practiced by Jean Baptiste Denys in 1667 up to the present time. It must be remembered that Denys' first transfusion was performed

only about forty years after Harvey's monograph on the circulation of the blood, entitled "Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus," was published (1628). This particular transfusion consisted in the injection of the blood of lambs into the veins of a boy who was dying as a result of repeated venesections. Happily, the boy recovered but had black urine indicating hemoglobinuria due to massive hemagglutination and hemolysis. This frequently occurred as a result of incompatibility of blood groups, about which nothing, of course, was understood at that time; consequently blood transfusion passed out of practice until it was revived by Blundell in 1818, who sought to overcome the hazard by a special apparatus for transferring bloods from the donor to the recipient. The technique was bad and the results were worse. Bischoff, in 1835, initiated the practice of using defibrinated blood, but still fatal results followed until 1900 when Landsteiner, by discovering the presence of isoagglutinable substances in human blood pointed out the reason for bad results.

The next step in the development of this work was the discovery, in 1907 by Jansky, that all human bloods fell into four groups. In 1910 Moss proved that isohemolysis of the red cells never occurs without agglutination, although isoagglutination may occur independently of isohemolysis. In other words isohemolysis and isoagglutination are coexistent, also isoagglutination may occur singly. He devised a classification of blood groups which transposed Groups I and IV of Jansky. In other words, Group I of the Moss class is Group IV of the Jansky; Group IV of the Moss is Group I of the Jansky; Groups II and III of the Moss are the same as Groups II and III of the Jansky.

The Jansky classification has been recommended in a report of the special committee of the American Medical Association of 1921, but many still prefer the Moss classification.

In order to make a successful transfusion, two essential points must be covered: First, we must have compatible bloods; second, we must have an efficient and sterile method of making the transfer.

Relative to the first point: Bloods of the donor and the recipient must be compatible and must match. There are two isoagglutinins in serum and two isoagglutinable substances in the red cells, a Mendelian inheritance existing from birth. Isohemolysins occur in about 25 per cent. of all subjects. They follow the same groups as isoagglutinable substances and thus may be discarded for all practical purposes. Another point which must be considered is the fact that the cooling of blood

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in mixing the serum and cells of the same person may be followed by autoagglutination. In other words, we must determine the group to which the donor and the recipient belong. Statistical evidence gathered by Moss shows that 10 per cent. belong to group I; 40 per cent. belong to group II; 7 per cent. belong to group III; 43 per cent. belong to group IV (according to Moss' classification).

It is to be noted that infants do not have the same groupings as either parent, and that a baby has a group classification just the same as an adult; therefore, transfusion in babies without grouping is dangerous.

Method of blood grouping. We must have a small quantity of known Groups II and III serum on hand, preferably kept in sterile glass ampules or vaccine bottles closed with a rubber cap. Since we need but one drop of each to make the test we enter these vaccine bottles, after sterilizing the top with iodine, by means of a sterile, fine, needle attached to the sterile tuberculin syringe. To 5 cc. of sterile normal saline solution in a test tube add a drop of the blood to be tested and shake. Place a drop of the known group II serum on one end of a clean glass slide and mark it II; on the other end place a drop of known Group III serum and mark it III. Add to each drop one drop of the corpuscle suspension, mix with a sterile platinum wire, which has been re-sterilized, of course, in the flame before passing from one drop to the other. Examine under the low power of the microscope where agglutination may be seen within from one to ten minutes by the formation of thick, dense, irregular clumps. They appear against a white background as brick-red deposits. The following reading will now be made:

Group I. (Moss method). Both drops of serum show clumping. (Universal recipient.)

Group II. (Moss method). Serum drop III is clumped but not drop II.

Group III. (Moss method). Serum drop II is clumped but not drop III.

Group IV. (Moss method). No clumping in either drop. (Universal donor.)

If the subject is of Group I, he is the "universal recipient." If he is the patient, he may receive any blood group. If he is the donor, he can be used on Group I only. If the subject is of Group II, he can receive only Group II or Group IV as a patient or he may be used only on Group II and Group I as a donor. If the subject is of Group III, he may receive as a patient only Group III blood or Group IV; if he is to be the donor, his blood may be used for Group III and Group I only. If the subject is Group IV, he is the "universal donor." He may receive Group IV bloods as a patient but his blood may be used on any

group as a donor. However, even though we have grouped these people, donors and recipients, something more must be done, namely the "matching" of sera and cells. Test the serum of the donor against the cells of the recipient. No hemolysis should occur. Test the serum of the recipient against the cells of the donor. No hemolysis should occur. No agglutination should occur.

Errors in blood matching and grouping. Rouleau formation may prove confusing but these may easily be differentiated by using the low dry lens. Secondly, isoagglutinins vary in quantity in the same individual from time to time and so he should be tested out occasionally even if he knows his group.

It occurred to us recently to investigate just how long blood intended for grouping may be kept and still show its distinct qualities in a blood grouping test. In order to determine this point we placed in sterile, normal saline solution fresh bloods belonging to various groups, and in other tubes we placed the same bloods, in sterile 0.25 per cent. sodium citrate solution and in 0.85 per cent. saline solution. These diluted suspensions of blood were kept at room temperature for as long a period as seven days. They were typed each day with known Groups II and III serum. It was found that the respective bloods showed their qualities on testing for as long as 7 days after they had been withdrawn from the patient. This appears to us to be a very important step in assisting physicians at a distance in grouping donors and recipients for blood transfusion.

Since it is often a matter of great emergency that a blood transfusion be performed at once, we offer the suggestion to the State Medical Association that a committee be formed to look into the question of grouping a certain number of persons in each community so as to obtain subjects who will be ready for blood transfusion whenever they may be called upon. It is highly advisable to find a Group IV individual so that he may be used as a donor, in an emergency, without matching.

A word or two may be said here about professional donors. These are available in the large cities but they may also be made available in the smaller communities. This can be brought about by publicity through the lay press. In this connection it may be stated, in answer to many questions which are asked about the taking of blood, that the withdrawal of 500 cc. or even more, produces no bad effects or discomfort. In two or three weeks the normal individual has completely recovered from the loss of one pint of blood. Giffin and Haines¹ observed no harmful results

1. J.A.M.A. 81:532 (1923).

from multiple donations of 500 cc. of blood given at intervals of 4 to 5 weeks in a group of 84 professional donors. Feinblatt records the case of a professional donor who submitted to 59 donations of blood within a period of nineteen months, the total amount of blood given during the period being 23,960 cc. He suffered no bad effects although his hemoglobin reading became 70 per cent.

It is advisable in selecting the donor, whether professional or a family donor, to do a Wassermann test and exclude, if possible, the person with syphilis, tuberculosis, measles and malaria.

Young adults are the best donors and men better than women because of the accessibility of veins in men. It is also a very good idea to make a preliminary hemoglobin test so as to exclude the possibility of injecting from an anemic donor. It is well to avoid donors of an emotional or temperamental nature.

In spite of the fact that grouping has simplified the safe operation of blood transfusion it has not entirely eliminated all the dangers, for the reason that even compatible blood groups sometimes show isoagglutination. This can be avoided by the careful matching of the patient's blood as to sera and cells in addition to blood grouping.

Even with care in matching and grouping severe reactions have followed blood transfusions. It must be remembered, however, that blood transfusion is often a matter of emergency and that we must disregard remote danger in the presence of an overwhelming and immediate emergency.

As a matter of fact, it seems to me that the disasters which have occurred in blood transfusion have happened under the most advantageous circumstances so far as care and the taking of preliminary precautions are concerned. This perhaps is very much the same as a patient dying on the operating table from a sudden and unexpected idiosyncrasy to the anesthetic where every precaution has been taken in examination and study of the patient before the administration of the anesthetic. These instances which happen to the surgeon and to the blood transfuser, while regrettable, must not deter us in our campaign to help people by this method.

The second point which we wish to consider is the method of making blood transfusion. There are two methods, (a) the citrate, and (b) the direct method. The citrate method is the withdrawal of blood of the donor into a quantity of sodium citrate for the purpose of preventing coagulation following intravenous injection.

The citrate method which we have used is the withdrawal from the donor of blood

into an ordinary salvarsan outfit containing a definite quantity of 2.5 per cent. sterile sodium citrate solution which when diluted with blood will give us 0.25 per cent. citrated blood. We have found this an efficient and safe method. We take the precaution to shake the blood thoroughly in the bottle in which we receive it, passing it through sterile gauze and then injecting directly, placing a piece of sterile gauze over the entrance tube so that no clots will enter the tube and clog up the needle.

We have seen no bad results from the citrate method. It is safe, applicable to industrial emergencies or whenever facilities are not available for the direct method, which to our mind is the method of choice where large quantities of blood are required. I have personally for years preferred the citrate method in spite of the fact that many of those who now espouse it have condemned it in the past. I have found it easy to apply and thoroughly devoid of accidents or bad reactions, all statements to the contrary notwithstanding. My only objection to the citrate method is the fact that you cannot handle as much blood with this method as you can with the direct method. The advantages of the citrate method are, relative ease of application and the fact that almost any physician accustomed to vein puncture can make this transfusion.

I wish to state clearly and definitely that blood transfusion is not a specialty of medicine and that anyone who exercises care and gets experience in vein puncture can successfully make blood transfusions.

If this procedure is to be of value to the public there must be physicians in every community capable of carrying out this work. It is not possible in the presence of an emergency which demands blood transfusion to transport the patient any great distance, nor to bring the blood transfusion operator from any great distance. True, we like to do blood transfusions in hospitals where there are ample conveniences for sterilization; but we have done many in private homes just as successfully but not quite so conveniently.

There seems to be a tendency in these times on the part of some of our more recently graduated physicians to believe that no medical or surgical operation should be attempted unless one is surrounded by a glittering staff of assistants and all the resplendent armamentarium of the modern hospital. These things are manifestly desirable but hardly obtainable in all cases of emergency. Modern medicine demands more physicians who can act on the spur of the moment, with limited facilities, rather than those who can work only under these ideal conditions.

The direct method, when applicable, is the ideal one. We have had experience with many different instruments devised for this purpose. The two methods which we prefer are the Scannell method and the Feinblatt method. The Scannell method was devised by Dr. John M. Scannell, of Brooklyn. The wide throat of the Scannell syringe is an important point in the successful use of this instrument. The joints are interchangeable and are fitted with a lock which insures against leakage and are locked with a quarter turn. It is equipped with an emergency pipe line running to the basin of saline solution by means of which the syringe can be instantly washed out without disconnecting a single joint. It carries a transfusion needle that can be locked to the skin after it has been inserted. It also carries canulae of various sizes, with a collar placed about half an inch from the distal end over which the vein can be pulled and tied. These needles and canulae are also fitted with a special lock which prevents them coming apart. The valve of the syringe has a three way unit, the handle being so placed that it can be moved readily with the thumb of the left hand. Attention is called to the large opening for the syringe which is of bayonet-lock type. It has three outlets. One tube leads to the donor, one to the recipient, and the third to a basin of saline solution. Only one line can be opened at a time. The diameter of the bore through the valve is 3 mm. which insures the free, easy passage of the blood. The third tube can be used to draw up saline into the syringe to determine if needle is in the vein of recipient or to wash syringe if the piston begins to stick. It can also be used to inject saline or Ringer's solution into the donor at the finish of the transfusion. The syringe has a hole through the metal tip $3\frac{1}{2}$ mm. in diameter with a finger grip on the under side for an easy and secure grip. The outfit is also equipped with a valve adapter so that in the event of the syringes being broken, any standard Luer syringe can be used in an emergency.

Technique of using the apparatus. Wrap the outfit in gauze and boil, or dry sterilize in autoclave and keep ready for instant use. Inspect rubber tubing before sterilization and if defective, replace. No. 18 French catheters can be used by cutting off ends. Lubricate the glass syringe with clean sterile vaseline. Wait until the syringe is cool and dip the piston into warm vaseline and work up and down several times in the barrel. Wash out the excess vaseline with luke warm sterile water (90°). Assemble the apparatus, placing the tube with the sinker in the middle and

expel all the air by filling the valve and the tubes with normal saline solution.

Prepare both donor and recipient as for a major surgical operation. Place the donor and the recipient on the operating table with heads in the opposite directions.

Place a rubber tourniquet on the arm of recipient. Insert the needle, pointing it towards the shoulder. Lock it into position with a fine cambric needle supplied with the outfit. Remove the tourniquet. Connect one of the side tubes coming from valve to this needle.

Draw 10 cc. of normal saline solution through the middle tube into the syringe and inject this through the tube just connected. This determines whether the needle is safely within the walls of the vein.

Place the tourniquet around the arm of the donor. Insert needle, pointing towards the hand. Blood should spurt freely from this needle. Connect to tube opposite to one going to recipient.

Hold the syringe in the left hand.

Turn valve handle until arrow points to donor inlet; then with slight traction on the piston the syringe should fill. (If it does not, the point of the needle is not in the vein, or else the tourniquet is too tight.)

After the syringe is filled with blood, turn valve handle in opposite direction until arrow points to recipient outlet and empty; then push the valve handle back towards the donor and repeat these movements until the desired amount of blood has been transfused.

If, after 300 or 400 cc. of blood have been transfused, the piston begins to stick, turn valve handle until arrow points to outlet to basin of saline solution, and wash the syringe out quickly two or three times; then proceed as before.

If for any reason a delay is necessary in the middle of the transfusion, fill the apparatus with saline solution through the middle tube to prevent clotting in the tubes and needles during the delay.

If more than 500 cc. of blood have been removed from a donor, remove the tourniquet from his arm and inject 500 cc. of Ringer's solution. To do this, substitute basin of Ringer's solution for basin of saline solution and proceed as before.

At the conclusion of the transfusion, wash and clean apparatus at once.

The next apparatus which I propose to describe is the Feinblatt apparatus devised by Dr. Henry M. Feinblatt, also of Brooklyn, N. Y.

This instrument consists of two disks

rotating one upon the other at an angle of 90°. The proximal disk is perforated to form a channel for communication with a Record syringe attached to it. There is a 20 cc. Record syringe and metal tubing. The patient and donor are placed as in the previous description. The tourniquet is placed on the arm of recipient, the needle is inserted towards the shoulder; as soon as blood flows tourniquet is released. The adapter tube of the instrument is inserted into the shoulder of this needle and the saline solution in the Record syringe is injected slowly. Donor's arm is surrounded by the tourniquet, the vein is punctured with the point of the needle towards the wrist. The adapter of the inlet tube is then inserted into the shoulder of the needle. The instrument is now connected with both donor and recipient. Syringe is turned to connect it with the donor. By alternately rotating the two disks we can switch from the donor to recipient's position, slowly withdrawing and injecting blood. This can be accomplished by turning the syringe with one hand while the other hand holds the proximal disk, thus rotating the two disks one upon the other. The amount of blood injected is known at all times inasmuch as the syringe contains 20 cc. Five hundred cc. can be injected very rapidly.

3514 Lucas Ave.

PELVIC INFLAMMATION IN WOMEN*

HERMAN E. PEARSE, M.D.

KANSAS CITY, MO.

The acute pelvic infections in women may be traced most frequently to infection from labor, abortion, gonorrhea and from trauma caused by the use of instruments.

The infecting germ will be streptococcus, staphylococcus and gonococcus. The site of pelvic inflammation that follows such infections will be along certain tissues. The staphylococcus prefers connective tissue spaces; the gonococcus flourishes upon mucous membrane and when present is generally accompanied by other organisms which complicate the picture. A large factor is the constant interference with biologic functions of all sex organs. Such interference is sometimes mischievous and harmful and infection follows in its train. There is no help for this for as Friedlander¹ says, "Man, in a natural environment, would employ all his organs according to their structure and biologic

purpose; socially such an instinctive life is impossible. Woman, under the existing order of social life, is prevented from permitting her sexual organs to function in accordance with their structural purpose, due to social standards of morality and to the necessity and opportunity for women to seek work of an industrial nature."

LABOR

The guidance of men and women by intellect and reason instead of by biologic instinct results in interference with labor at almost every step. The ever present streptococcus and the staphylococcus secure a foothold where the finger, probe, Barnes bag and the forcep have made the physiological breach. The resulting inflammation is upon the mucous membrane (endometritis or salpingitis), in the cellular tissue (pelvic cellulitis), upon the peritoneum (peritonitis), within the blood vessels (septic thrombosis), or in all of these locations.

Manual and instrumental interference with labor if carelessly performed greatly increases the incidence of these infections. It is to be noted, however, that modern medicine has turned the searchlight of scientific research upon the question with the result that the present day woman, in the modern hospital, attended by the trained obstetrician has the best chance in all the world's history for her life, her health and the life and health of her baby. Better than the primitive savage woman, better than the woman of other and earlier days of medical assistance and better than the modern woman in her own home attended by her family doctor.

Statistics carefully compiled and studied have shown us that for a city to earn a place in the approved list of health guardians it must have forty per cent. or more of its children born in properly conducted lying-in institutions. This may be taken to mean that a large percentage of homes do not offer a physician the surroundings that insure the woman against the evils and dangers of pelvic infection. Since civilization has decreed that the parturient woman must have help, science has added that "That help must be 100 per cent. free from the pernicious danger of infection carried by the hands, the instruments and the dressings of the attendant." The standard is set by the modern hospital and must be equalled by the physician in the family home. Failure to reach this standard, complicated by the assistance of ignorant though well meaning friends, brings pelvic infection with its long train of disease and death. Let us all lend our best efforts to the end that doctor and nurse may bring nothing but good to the helpless mother.

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

ABORTION

The infections following abortion are similar to those that follow labor. The deaths are usually due to streptococcus infection which ends in peritonitis. If due to the presence of gonorrhea the Fallopian tubes bear the brunt of the attack and the condition is complicated by these pyogenic organisms. The salpingitis and pyosalpinx will be acute or chronic according to the virulence of the infected organism and the ability of the patient to resist such infection. The uncomplicated staphylococcus infections usually recover. The gonorrheal infections usually go on to chronicity and require operative procedure. Abortion is the vicious offspring of misdirected and bungling birth control measures and until public sentiment becomes settled on this vexed question the expectant mother must hesitate between a dangerous criminal act and an impossible economic condition. Christian standards of morality will not countenance criminal abortion and modern economic conditions prohibit families of ten or twenty children, at least in the cramped homes of large cities. The cases of pelvic infection in women following abortion seen in our city clinics have touching and sordid sidelights of personal history, and sometimes represent days and nights of mental anguish for the prospective mother before she decides between a criminal abortion on one hand and of assuming a burden which she knows she cannot bear, upon the other.

GONORRHEA

Gonorrhea is the cause of many pelvic infections. It is almost the sole cause of pyosalpinx in normal, adult, nonpuerperal females. It is the hidden and very potent ally of infection from instrumentation and is the deciding factor in many cases of infection following abortion and confinement. All pus germs find the path in the pelvis easy to follow in their efforts to establish pathology. It is a problem for the physician and surgeon, the welfare worker and the state. Its treatment is the destruction of the infective germ and the time for its destruction varies with its location. If accessible it is to be promptly attacked, but if in the pelvis we must wait. Rest, relief and support must be depended upon until such time as the pus in the tubes may become sterile, or nearly so. This will be three or four months from the time of onset. Early operation in these cases carries a high death rate.

I have collected data on over five thousand cases other than those of my own. My own experience covers 5,770 cases during the past twenty years. I am sure that more than eighty per cent. of all cases of pyosalpinx are caused by gonorrhea. I think it is within the bounds

of fact to say that ninety per cent. of pus tubes have gonorrhea as a causative factor. Perhaps there was a labor, or an instrumentation in which the mucosa was injured and a streptococcus or a staphylococcus inflammation followed. Yet in almost every case a history can be obtained, or local evidence will point toward a latent gonorrhea as the initial factor. Early, late or chronic gonorrheal infection of the vulva, urethra, vagina, cervix, vulvovaginal glands or Skeen's tubules; all these are accessible locations and may harbor gonorrhea. They may be fearlessly and radically attacked and successfully treated. Patient work with nitrate of silver, forty to sixty grains to the ounce (eight to twelve per cent.) will cure the disease in these accessible locations. Between each application a douche of borax or soda or other salines may be used or the Engleman dry treatment employed. Prompt and radical treatment will save many cases and extension to the tubes will not take place.

All tabulations concerning pelvic infections are extremely faulty, as the number examined by physicians who are observant and who have records form only a small part of all that actually occur; many cases occur which are never observed. Of those that are observed there are about seven who are relieved by treatment to one that enters the hospital to be operated upon for pelvic inflammation. The number is much larger than that because all referred cases from a distance do not bear a relation to treated and cured cases. That information does not come in. From all sources in my own experience of twenty years ending December 30, 1926, there were 5,770 cases of pelvic infection which I have observed and treated. Of these 832 passed on to operation. Of this number gonorrhea was a factor, as shown by preponderance of evidence, clinical proof or bacteriological proof, in 715 cases, a fraction less than eighty six per cent. Of the other 117 cases, abortion claimed the majority, childbirth a close second and all other causes combined making less than two per cent. Four thousand nine hundred and thirty eight cases escaped the knife by treatment after they had applied to a doctor. This treatment is effective just in proportion as it is early, prompt, radical and thorough. Under treatment of this kind, extension to the tubes and upper pelvis where operation is required does not often take place.

If extension does take place that is another story. If pus formation in the Fallopian tubes in an acute form becomes manifest, then the treatment abruptly changes. No more radical treatment and no thought of early operation; only rest, time, and relief from pain until the pus has become sterile, unless mixed infection.

made manifest by peritonitis forces one's hand. In three or six months the pus becomes sterile. In the cases referred to above, about 5,000 in number, a large number were examined for gonococcus. Of the eighty six per cent. proven to have been gonorrheal the pus was sterile in about seventy per cent. of those who had been operated late; that is, in three, four, or more months from the onset of the disease; and in this group there were practically no deaths while in those operated upon immediately the death rate was one in every five, and often as high as one in every three.

INSTRUMENTATION

Instrumentation in the presence of unclean surroundings is a fruitful source of infection with each of the infecting organisms mentioned. The examining finger, the sound, the speculum, the curet and the probe, unless used with the greatest care and guarded by surgical asepsis, are all potent agents in opening the way to the infective processes. I am tempted to say that many obstetrical procedures and many more office examinations or treatments of women with supposed pelvic symptoms, require two doctors to report them. The first will be the one who performs the instrumentation, the second will be the surgeon who treats the infection which follows.

Much would be gained by all women who are examined if certain rules were followed. All examinations should be made with gloved hands. All instruments should be boiled for ten minutes before using; and in dirty cases they should be boiled afterward as well. Apply mercurochrome in abundance to the vagina and cervix before using a sound, dilator, or other instrument within the uterus. Never use a tenaculum to pull down the cervix except with surgical asepsis. In obstetrical cases keep everything out of the vagina as long as possible.

TREATMENT

Streptococcic infection should seldom be operated upon radically. Reliance should be placed upon rest, heat, douches, glycerine with ichthyl or boric acid, proper diet and medicine. Collections of pus do occur in streptococcic infections. Sometimes they are found after opening the abdomen, as in certain cases of appendicitis and in pelvic infections that were operated upon because of a diagnosis of pus tubes. When they are found, the entire infected organ may sometimes be removed safely; as an appendix or an entire uterus. Such occasions are rare. I have successfully removed streptococcic appendices and had recoveries. On two occasions, being called early after the initial chill the second day following abortion, and finding a very high temperature

and an odorless, bloody discharge that showed streptococcus in abundance, I have removed the infected uterus and both patients recovered. This procedure is proper only in early cases before pus collects. The rule laid down by Crossen, of St. Louis, holds good and has been proven by many surgeons, viz., "The only safe way to operate for streptococcus pus collections is by extraperitoneal incisions." Find the cavity and drain it. If found after opening the abdomen, close the abdomen and seek a route of attack that does not lead through or into the peritoneal cavity. Disregard of this surgical rule will be followed by the death of the patient from peritonitis.

Gonorrheal inflammation requires radical operation in almost every case, but the important factor is the time of its employment. It is usually safe to operate after three or four months from the time of the acute infection.

Septic thrombosis tests the judgment of the surgeon to the utmost. When the thrombotic process is severe and is confined to accessible veins it may be stopped by proximal ligation of the infected vein or by excision. I have ligated and removed the ovarian veins with good results. There is practically no hope for these patients except by surgical treatment. The whole matter rests upon the accessibility of the vein concerned, and what is accessible in one patient is not accessible in another, and what is accessible to an experienced man with a thin patient in a perfectly appointed operating room, will not be accessible to the same surgeon with the same type of patient in obscure surroundings. The cases of septo-thrombophlebitis that I have tied off and excised stand out in my memory with the vividness of a great adventure.

I do not use drainage very often. Drainage has its place. Where any hollow organ is operated upon and leakage may occur, a drain is a necessity. But in the amputation of abscessed pus tubes and where many adhesions are present, drainage has no place in my work if the diseased tissue is removed. If all bleeding is stopped by ligation, suture or pressure, and all raw surfaces covered, it is better to close the abdomen and let the patient get well. In January and February, 1926, I did twenty consecutive laparotomies for pus tubes, with or without ovarian abscess, and in none of them was a drain of any kind used. All were sewed up tight, all got well, none had peritonitis and none had sinus formation. I believe there will be no postoperative hernias. I feel sure that such results would not have been obtained had drainage been used in every case.

In conclusion I would say that the question of radical operation, and when to do it, is a pivotal question in pelvic infection. Early

radical operation is a potent life saver when properly used.

923 Medical Arts Bldg.

GAYLER SPECIMEN FORCEPS

WENZEL C. GAYLER

ST. LOUIS

This little instrument was first described in 1914 and is now in daily use in several of the out clinics in St. Louis. The object of the instrument is to facilitate the removal of small particles from the cervix uteri for microscopic examination. Dilatation of the cervix



Fig. 1. Gayler's Scissors for the removal of pieces of cervical tissue for microscopic examination.

and anesthesia are not necessary and very little bleeding results. These tissue specimens may be removed with great frequency during ordinary office examinations and the patient need not know that anything but an ordinary office examination has been made.

The handle is seven inches long. The distance beyond the handle is one and one quarter inches thereby giving it great strength. The cusps are perfectly round, not oval, and are one quarter inch in diameter.

Wall Building.

(Note. A description of the Gayler Specimen Forceps was first reported in the *Journal of the American Medical Association*, 12:453 (February) 1914. The reason for reporting it again in our JOURNAL is because a number of physicians have expressed doubt or disbelief that our fellow member, Dr. Wenzel C. Gayler, St. Louis, devised the instrument and put it into practical use before reporting it originally in the *Journal of the American Medical Association*. Ed.)

VAGINAL ENDOSCOPY

HORACE W. SOPER, M.D.

ST. LOUIS

The examination of the vagina by the method of endoscopy was suggested while doing routine proctosigmoidoscopy. Our armamentarium for this work consists in various sized tubes, ranging in diameter from 3/8 inch to 3/4 inch, in length from 6 inches to 14 inches of Tuttle's modification

of Strauss' sigmoidoscope. The 3/8 inch caliber tube is especially useful in examining virgins. It may be passed painlessly without injuring the hymen. The patient must assume the correct knee-chest posture. Atmospheric pressure unfolds the walls and an excellent view of the mucosa of the distended vagina and the cervix uteri is obtained.

I do not find any description of the procedure in the various textbooks on gynecology. One suggests the employment of Kelley's urethroscope in the examination of virgins. Tuttle's instrument is easily sterilized and I believe will be found useful to the gynecologist. The bivalve speculum that is usually employed may conceal lesions on the vaginal wall.

3701 Westminster Pl.

LINSEED OIL DERMATITIS

F. J. Vokoun, Cleveland (*Journal A. M. A.*, July 2, 1927), has made a study of linseed oil dermatitis. The lesions are usually on the anterior aspects of the arms, the dorsa of the hands, and the anterior aspects of the thighs (in those men whose thighs touch the oil in their work). The lesions are symmetrical, discrete, deep, and thickly scattered, and consist of primary macules and papules with secondary scratch marks and crust formation. The symptoms are intolerable itching and burning, especially after bathing or retiring for the night. In the differential diagnosis, scabies must be ruled out. The Wassermann test should also be employed to rule out a possible atypical secondary rash. If the diagnosis is difficult, a simple test will prove it: Have the men stay away from work for a few days, and they will improve if their dermatitis is due to the oil. Sulphur ointment, calamine lotion, 5 per cent. white ammoniated mercury and Lassar's paste have failed to give relief in severe cases. The only thing to do for these sufferers is to grant them a "vacation" until their epidermis becomes intact. The cases occur more frequently when Indian or South American seed is being pressed than when Canadian or American seed is used, so that it may be assumed that the irritating substance is in larger proportion in the former seeds. The exact nature of the irritating substance is at present undetermined.

REPEATED ACIDOSIS AND COMA IN JUVENILE DIABETES

That proper medical direction and the constant and intelligent obedience to instructions are in any event indispensable for the successful management of patients with juvenile diabetes is well shown by the case reported by Thomas A. Clawson, Jr., and George A. Harrop, Jr., Baltimore (*Journal A. M. A.*, July 2, 1927), which records twelve successive periods of severe acidosis or coma in a colored child, aged 11, following dietary indiscretions, and, in one instance, of infection. Death finally resulted outside the hospital, evidently in coma, because the family did not apply for medical aid.

THE JOURNAL

OF THE

Missouri State Medical Association

AUGUST, 1927

EDITORIALS

ETIOLOGY OF TRACHOMA

Taking its toll in every clime, from Russia and China and India and America, adding year by year and century by century to its hundreds of thousands of victims of poverty, misery and blindness, trachoma has been an unrelenting hindrance to the advance of civilization. Here in our own State of Missouri, thousands with cloudy corneas and weeping eyes, with scarred lids and intumed lashes, daily seek aid in our clinics or sit hopeless in their darkened homes.

A long step in the understanding and successful treatment of a disease has been the finding of the cause. Many etiologic agents for trachoma have been claimed in years past but none has stood the test of time. To review these even in the briefest manner would require more space than we may use. So consistently absent has been the finding of any one organism in cases of this disease that some recent workers have gone so far afield as to believe that the disease may be a vitamin deficiency and is not contagious. This view fortunately has gained little credence but that it should even be considered illustrates the obscurity in which trachoma is shrouded.

Just at this time comes from that wonderful institute of research in New York founded by that most enlightened philanthropist, Mr. Rockefeller, an amazingly convincing report of the finding of a possible etiologic agent for trachoma. This work is from the master hand of Hideyo Noguchi, a name to conjure with in the field of experimental bacteriology. For a year and a half Noguchi has been working uninterruptedly on the problem of trachoma in our American Indians. At the meeting of the Ophthalmological Section of the American Medical Association at Washington in May of this year, he made public his discovery.

He had isolated from trachomatous Indians a motile bacillus with culture of which he was able repeatedly to produce typical lesions of trachoma in monkeys.

The clinical appearance and the pathologic sections were characteristic of trachoma. There

seems good reason to believe that this bacillus may prove the causative agent.

Many more experiments must be made and much more work done before we can be certain, but this report appears the most hopeful of any that has ever been done on the etiology of this disease.

Experiments are now being conducted on the serology of the organism and the rumor is that the outlook of developing immune serum is good.

The clinician can but hope that the laboratory will find a better treatment than scarifying operations and silver and copper and perhaps it is not too optimistic to feel that this ray of light may be the herald of day after the long night.

FEWER MEETINGS—MORE ASSEMBLIES

The multiplication of specialties within specialties, especially in the field of psychiatry, was commented on in a paper by Dr. Sanger Brown at the recent meeting of the American Psychiatric Association in Cincinnati. It has seemed to these men and women working out problems in highly interesting but very circumscribed fields that they must have opportunity for discussion among themselves—and almost inevitably some one suggests the formation of a new society. To name a few in psychiatry there are the American Association of Orthopsychiatrists who devote attention to human behavior, chiefly conduct disorders, the American Association for the Study of Epilepsy, the American Association for the Study of Feeble-minded, the American Psychopathological Association, the American Psychoanalytic Association.

Heretofore these societies have held separate annual meetings at different times and places but this year on the suggestion of Dr. Wm. A. White in his president's address at Richmond two years ago, they all met at Cincinnati. Meetings were held before, in conjunction with, or after the sessions of the American Psychiatric Association, which is after all the parent of this numerous progeny. Just as all specialties should, and many of them do, at least once in the year join in the annual assembly of the American Medical Association to honor and draw sustenance from their parent, General Medicine, so should these special societies hover about the general body from which they must all spring. If one special society meets in New York, another in San Francisco, a third in Minneapolis and a fourth in New Orleans the continent must be spanned to

attend them all. No one but Lindbergh could do it and arrive on time.

The plan followed at the Cincinnati session has numerous advantages aside from pooling allied interests and coming back occasionally to "brass tacks." Better railroad facilities and reduced fares are obtained, more favorable arrangements with hotels and local transportation companies can be arranged, and last but not least such meetings enable one to dip into each pool of knowledge in the field and absorb something helpful from all.

If this plan were followed by other special societies it would have the added advantage of greatly reducing the number of conflicting dates with meetings of state medical associations. Many members eminent in their special fields are prevented from attending the annual sessions of their state organizations year after year because of the conflicting dates with one or more of the special societies where, one must admit, their principal professional interests are centered.

An internist remarked recently that his work in general practice constantly impressed upon him the need for a better understanding of the mental factors operative in nearly all the cases coming under his care.

A striking illustration of the appreciation of this need among internists was observed at the Washington session of the American Medical Association when an entire session of the Section on Medicine was devoted to papers dealing with mental attitudes arising out of disorders treated by internists, ophthalmologists, otolaryngologists, urologists, gastro-enterologists, gynecologists and others practicing in limited fields other than psychiatry. The hall in the Mayflower Hotel was packed to standing room only and none of that to spare. The interest was sustained until the very last discussion was heard and, although we shall never reach a complete understanding of the problems presented, it is reasonable to believe that all were helped to a bit clearer view of what constitutes a large part of the practice of "the gentle art of physic."

SOME INTERESTING DATA FROM THE HORTON TRIAL

The much litigated Horton case has after many vexacious delays been brought to a hearing before the State Board of Health and, as announced in our June issue, the license of Ray B. Horton revoked.

The Board found from the evidence that Horton had made false and fraudulent statements relative to his preliminary and medical

education in his application to the Board for examination as to his fitness to practice medicine and surgery in Missouri.

The evidence showed that Horton did not attend high school to exceed two years whereas in his application he said under oath that he had attended four years and graduated in May, 1916. On cross examination the accused admitted that he was not a student in the high school in the years 1912-13, 1913-14, as stated in his application. It was shown by his teacher and by a photograph of the students in a school room at Purdy, Missouri, that Horton was a student in the seventh grade in 1912-13 and graduated from the eighth grade in the spring of 1914. His graduation from the eighth grade in 1914 was corroborated by the records of the county school superintendent which showed that Horton was one of the graduates from that grade in 1914.

Some four years ago, when a St. Louis newspaper correspondent who was making an investigation of Horton's school record brought the record to the attention of the school board of Purdy the board assembled, made an investigation and came to the conclusion that Horton had not done to exceed two years' work in the high school, and entered this finding in the minutes of the school records.

A rather interesting incident in connection with Horton's high school record is the fact that his purported high school record was not made up and entered in the school record until August, 1922, although Horton insists that he graduated from high school in May, 1916. The fact that the school record is a loose leaf book made it convenient to insert the page containing Horton's record in its logical place, had it been made during the time he claimed to have been a student in the high school.

Another interesting feature is that the record inserted in the book is in the same handwriting as the copy of the record made out on a similar loose leaf page and filed with his application to the board on August 29, 1922. This was the time when Horton very much needed a certificate of graduation from a high school or its equivalent. Without one or the other he could not possibly qualify for entrance to the medical examination which he was seeking.

In his application to the State Board of Health he further stated under oath that he attended the St. Louis College of Physicians & Surgeons during the school years of 1918-19, 1919-20, and 1920-21, and in his testimony at the hearing stated that he was in medical school at least eighty per cent. of each school year.

It was shown by the editor and publisher of the Cassville *Republican*, published at Cass-

ville, the County seat of Barry County, in which Horton resided, that Ray B. Horton began advertising himself as a veterinarian and solicited patronage as such as early as December, 1917. At that time he began to run in the newspaper a professional card which announced that he would answer calls to any part of the county, day or night, giving his office and residence telephone numbers. Similar advertisements were published in January and December, 1918, and January, 1920. The last named advertisement was a "reader" and was accompanied by the initials "T.F.," which the publisher said meant, in newspaper usage, "Till forbidden," and was run until ordered out by the advertiser. On March 4, 1920, the "reader" appeared again, with the same initials.

Mr. E. N. Meador, editor and publisher of the newspaper, testified that between January, 1918, and December, 1920, about sixteen months, Horton did not carry any advertisements or cards in his newspaper and it was disclosed that during this time Horton was located in Berryville, Arkansas; Mr. Meador further testified that during this time he had printed Horton's letterheads and envelopes, the orders for which, as well as for the advertisements and cards, were placed by Horton himself and all paid for by him personally at the office of the newspaper. Horton told witness Meador in 1920 that he had decided to quit the veterinary practice and take up medicine and that he was going to Kansas City to attend a medical school.

It was shown by a former student of the St. Louis College of Physicians & Surgeons, who attended continuously from 1917 to 1921, that Horton did not attend as a student during any of this time (Horton stated in his application that he did attend this school from 1918 to 1921, inclusive), and that Horton came to this witness in 1921 and asked the latter to assist him in buying credits from the St. Louis College of Physicians & Surgeons, which request the witness refused.

When Horton testified in his own behalf he was asked on cross examination whether he ever solicited and collected money from medical students of a certain Kansas City medical college who wanted to take the state board examination, for his influence with the board, and whether or not he did actually get large sums of money in this way for this purpose. Horton denied emphatically that he ever engaged in such activity. Although he admitted knowing the three men mentioned to him, he stated that he never asked or received from them any money for any purpose whatever.

In rebuttal the three Kansas City men were called as witnesses and each testified that, upon

the solicitation and representation made to them by Horton, they paid him \$500 each for his alleged influence with the board and his assistance in securing their admission to the board meeting for examination.

Horton, being ambitious, also made application to the State Board of Pharmacy for registration as a pharmacist. This application, which was filed on March 29, 1923, was introduced in evidence. In it he stated under oath that he began his apprenticeship in the retail drug and prescription business with W. H. Horton (his father), a registered pharmacist at Purdy, Missouri, on April 1, 1914, and remained there until September 1, 1916, and also served with J. W. McCraw, a registered pharmacist at Purdy, Missouri, from June, 1919, to November 12, 1920. With this application he was required to file evidence of his high school attendance, in which he swore that he "attended Purdy High School from September 1, 1914, to April 1, 1916."

He testified in the board hearing that he began in the fall of 1915 to attend the Kansas City Veterinary College and went continuously one school year of seven or eight months, and began in the fall of 1916 and attended one school year of seven or eight months, a veterinary school in Chicago, and began in the fall of 1917 and attended one school year the Arkansas Veterinary College, but did not graduate this year because he was short two credits. He stated that he returned to this school in March, 1919, and graduated.

Horton claims that he has such political influence with the governor, the supreme court, and other officials of Missouri as to make the ultimate outcome of this litigation entirely safe and satisfactory to him. However, we do not give these claims much credence. We feel that justice and justice alone will prevail in this litigation and that the state officials and the courts can be fully trusted in this as well as in all other cases coming to their attention.

NEWS NOTES

Dr. Paul F. Stookey, Kansas City, who has been ill for several weeks, has fully recovered and resumed practice.

Dr. E. C. Ernst, St. Louis, was elected President of the American Radium Association for 1927-28, at the meeting held in Washington, last May.

The Clinical Congress of Physical Therapy and Sixth Annual Meeting of the American

College of Physical Therapy will be held at the Hotel Sherman, Chicago, October 31 to November 5.

The Missouri Society for Mental Hygiene of which Dr. M. A. Bliss, St. Louis, is president has inaugurated a year round program for work throughout the state and has begun an active campaign of publicity on mental hygiene.

Dr. Henry Muetze, St. Louis, sailed for Europe on July 6 to attend the celebration of the 450th anniversary of the University of Marburgh where he received his early education and also took postgraduate courses in medicine.

Dr. Katharine B. Richardson, Kansas City, co-founder of the Mercy Hospital, was selected by the business and professional women's clubs of Missouri, as the most outstanding professional woman in the state at the celebration of the 30th anniversary of the founding of the Mercy Hospital, June 10.

Drs. Frank Hedges and Paul C. Smith, Pattonsburg, established a hospital in their city last May under the name of the H. & S. Hospital with a capacity of ten beds. It is open to use by the reputable physicians of the county and has enjoyed considerable patronage since its establishment.

Dr. and Mrs. James Moores Ball, St. Louis, accompanied by their daughter, Mrs. Robert Howell Lafean, of York, Pa., and Miss Betty Ball Lafean, sailed from Boston July 9 to spend two months in England and Scotland. Dr. Ball's new book, "The Resurrectionists," will be issued from either Oxford or Edinburgh.

Dr. W. T. (Pat) Coughlin, St. Louis, was one of two invited guests of the Surgical Section of the Illinois State Medical Society at the meeting held at Moline, Illinois, May 31 to June 2, 1927. The title of Dr. Coughlin's address was "Personal Experience With the Treatment of Defects by Flaps of Various Kinds."

At the recent session of the legislature in Colorado the medical practice act of that state was amended to require all persons applying for licenses to practice medicine to be graduates of a school teaching the healing art and approved by the state board of medical examiners. Hitherto, the statutes of Colorado

did not require an applicant to be a graduate of a medical school.

The tenth annual convention of the American Dietetic Association will be held in St. Louis, October 17, 18 and 19. The St. Louis Association will be hostess at the convention. The meetings will be held at the Hotel Statler. All our members are invited to attend these meetings and to view the exhibition of food products and institutional equipment.

Dr. Frederick O. Schwartz, St. Louis, recently demonstrated his method of cataract extraction in Washington and Baltimore. Three operations were done in the Episcopal Eye and Ear Hospital, Washington; one was done at the Gallinger Hospital, near Washington; and by special invitation Dr. Schwartz performed three cataract operations at the Wilmer Institute, Johns Hopkins University, Baltimore. An account of these, and of similar operations, soon will be published.

A recent survey of school children in Perry County conducted under the auspices of the Red Cross Public Health Service, showed 2,019 defective children among 2,800 examined. The principal defects were of a dental nature but other defects noted were: Throat, 833; posture, 693; lymph nodes, 658; nasal passages, 509; skin, 171; vision, 245; eye, 95; ear, 55; hearing, 119; 10 per cent. underweight, 500; 20 per cent. underweight, 38. Physicians and dentists of the county cooperated in the survey.

The American Board of Otolaryngology conducted an examination at Washington, D. C., on May 16 and 17, and at Spokane, Washington, on June 4. Of the 142 men examined at Washington, D. C., 119 passed and 23 failed to pass the examination. In Spokane the number passed was 46 and the number failed was 6. The next examination will be held in Detroit, September 12, 1927. The applications for examination should be sent to the Secretary, 1402 South Grand Boulevard, St. Louis.

On June 10 the members of Boone County Medical Society and their wives gave a testimonial dinner to Dr. Frank G. Nifong, Columbia, President of our Association, Dr. A. R. McComas, Surgeon, Councilor of the District, and Dr. Robert Roy Robinson, Hallsville. The dinner partook not only of the nature of a testimonial to Drs. Nifong, McComas, and Robinson, but of a farewell party to Dr. Robinson who is moving to New Mexico.

The dinner was given at "The Pinnacles," celebrated in local annals for the marvelous chicken dinners prepared by Mrs. Golds. Dr. Lloyd Simpson, Columbia, was toastmaster and everybody had to make a speech. The secretary of the society failed to send us a report of the after-dinner talks but we know they must have been not only pleasant but witty as well, for of course all our members living in the Athens of Missouri are finished orators.

The United States Civil Service Commission announces open competitive examination for the following positions: Assistant medical officer, associate medical officer, medical officer and senior medical officer. Applications for these positions will be rated as received at Washington, D. C., until December 30. The examinations are to fill vacancies occurring in the Indian Service, the Public Health Service, the Coast and Geodetic Survey, the Panama Canal, the Veterans' Bureau Field Service, and other branches of the Federal classified service throughout the United States. Specialists are needed in practically all branches of medicine and surgery. There is especial need for medical officers qualified in tuberculosis or neuropsychiatry. Applicants will not be required to report for examination at any place, but will be rated on their education, training and experience. Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examiners at the postoffice or customhouse in any city.

Members connected with state or county hospitals will be interested in the announcement of M. L. Seidman, tax expert of Seidman & Seidman, Certified Public Accountants, New York, that the compensation received by the medical director of a state or county hospital is no longer exempt from income tax under the ruling recently announced by the Income Tax Department. "Heretofore," Mr. Seidman explained, "the law used to be that a medical director in the position mentioned need not pay any income taxes on his compensation since he was a state employee or the employee of a subdivision of a state, and the salaries of such employees were exempt from tax. Under the 1926 law, the further requirement was added that the employment be in connection with an essential governmental function. It is now held by the Income Tax Department that operating a hospital is a proprietary rather than a governmental function, and hence the Department concludes that the compensation of a medical director is subject to tax under the present law.

"The probabilities are," Mr. Seidman added, "that this ruling will be contested, for there is a serious doubt whether conducting a hospital is purely proprietary. The contention may be made that the state wishes to safeguard life as well as property, and maintaining a public hospital could therefore be regarded as an essential governmental function."

The consolidation of Merck & Co., New York, and the Powers-Weightman-Rosengarten Co., Philadelphia, under the name of Merck & Co., Inc., became effective on July 1. This action brings together two chemical establishments the founders of which are identified with the very beginning of modern industrial chemistry, and whose products are known for their high standard of excellence wherever pharmacy, medicine, and chemistry are practiced. Under the terms of the agreement the Merck interests predominate in the new company. George W. Merck, son of the founder of Merck & Co., is the president, and Frederic Rosengarten becomes chairman of the board of directors—an assurance that the high standards and proud traditions of the old companies will be maintained. Both companies have been large manufacturers of chemicals, specializing in fine prescription chemicals. Their manufacturing activities have been to a large extent complementary to each other. The name Merck has been identified with pharmacy and the chemical industry since the 17th century, and Powers-Weightman-Rosengarten Co. traces its foundation back to 1818.

Merck & Co.'s origin was in an ancient pharmacy in Darmstadt, Germany, which came into the possession of Friedrich Jacob Merck in 1668, and which has remained in unbroken possession of the Merck family for 259 years. This was the nucleus of the great chemical establishment now known as E. Merck, Darmstadt. Heinrich Emanuel Merck took over the pharmacy in 1816, and as the intimate friend and collaborator of the great chemist Liebig started it on the road from pharmacy to factory. The preparation of pure alkaloids was the main aim of the founder of the Merck factory and his achievements include the original manufacture, on a commercial scale, of morphine in 1827, codeine in 1836, and cocaine in 1862. In 1891, George Merck, a son of one of the heads of the Darmstadt concern, came to the United States to become associated with the American agency for the old house and eventually to found the American house of Merck & Co.

The firm which eventually became Powers & Weightman was established in 1818 at

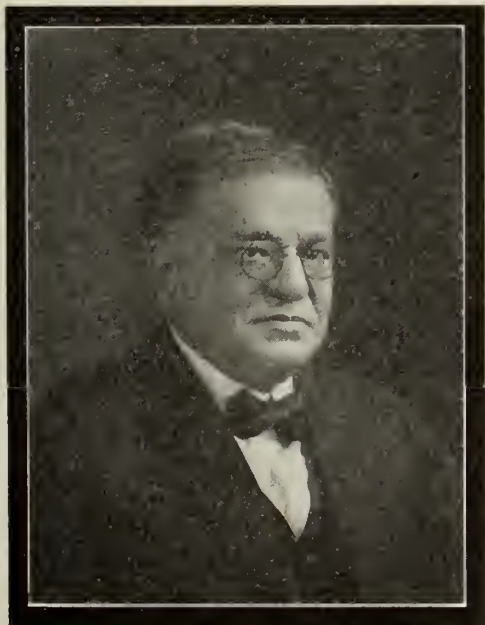
Arch St. near 12th, in Philadelphia. Rosengarten & Sons were the outgrowth of a partnership formed in 1822 by two Swiss chemists who manufactured chemicals. The firm took over the plant and assets of Powers & Weightman in 1905 and became the Powers-Weightman-Rosengarten Co. of modern times. The founders and descendants of the company established and maintained research laboratories and won their way to a foremost place among the manufacturing chemists of the United States.

OBITUARY

HANAU WOLF LOEB, M.D.

It is hard to think of Doctor Loeb in any single capacity. A man whose interests ranged from the delicate minutiae of ear, nose and throat surgery to the cumbersome intricacies of finance; whose longings were just as eager for the simple joys of home and the smile of a grandchild as they were for the clamorous glare of public meetings and the noisy plaudits of student convocations; whose gratifications lay no less in the triumph of familial love and the vindicated loyalties of friendship than they did in diplomatic victories and the professional approval of technical writing; such a man surely is a difficult subject for a brief obituary.

Doctor Loeb was a maker of men things.



HANAU WOLF LOEB, M.D.
St. Louis
1865—1927

He made a medical school; he formed hospital staffs and dictated hospital policies; he wrote laws and created fortunes; he established reputations for himself and for others; he formed a national examining board. Behind his making there was vision. He took himself seriously in the role of the seer and his favorite jest that he came from a race of prophets was for him more than half earnest. His imagination was creative, large, definitive.

I have sought for the secret of the man. He loved, needed and attained power. I should like to coin a new designation; he was a "Kratophile," "one who lusteth after power." Money, honors, reputation, were by him transmuted into the only coin he valued, the coin of the realm of power. Yet, with all his love for it, power meant to him only the increased capacity for effecting the things he started out to do. Superficially at times he may have seemed selfish; a patient and deeper study revealed his altruistic devotion to the ideal which his imagination had pictured as real long before other eyes could see it and long before, through the details of that ideal, others could read the meaning of his actions. It was thus he made demands on the loyalty of his friends, when through the vivifying effect of his own vision in himself he failed to understand that his friendship could not always communicate capacity. If he demanded loyalty, however, he was no less generous in giving it, for, by reason of that same vividness of vision he saw the finer motives of men behind their coarser actions. Loyalty, also, to him meant power. He worshipped power in others to a degree second only to his own ambition of it for himself.

He was an optimist; by nature, to be sure. for it is this trait which characterized the early recollections of him in the mind of some of his friends, but youthful optimism became confirmed into a fixed trait of manhood, when, through his accumulated power he had developed a confidence which in turn begat that resourcefulness that habitually made him challenge the impossible and often changed defeat into a new and greater victory. His life in this respect was an expression of Aeschylus' dictum "Nike kai krate," "Victory and strength."

To the reader of THE JOURNAL Doctor Loeb is significant chiefly as a physician and a medical educator. His practice was large. He rose to eminence in his specialty. He influenced for permanent good the science of otolaryngology through the publication of his two volumes of his manual and of some fifty papers; through his editorship of the *Annals of Otolaryngology, Rhinology and Laryngology*; through his creation of the American Board of Otolaryngology.

The medical profession at large was advanced through his comprehensive interest in hospital administration and particularly, what is not so well known, through his keen interpretation to hospital administrators of the viewpoints and needs of the staff member. His direct and indirect influence on medical legislation, state and civic, and in medical association forms no negligible part of his life. But, above all this, he materialized his ideals in the development of a school in which he was so dynamic a factor. How much St. Louis University owes Doctor Loeb will become obvious only with the passing years when the full effect of the traditions which he established become visible in educational results. Hosts of physicians in every state of the union will remember his public pronouncements at student convocations, the sane safety of his advice and direction in the privacy of his office, the sympathetic admonition in moments of scholastic delinquency or failure. Pages of incidents might be given to illustrate his vigor as a medical educator and his gentle humanity as a man.

His death on July 6, at the age of sixty-one, after an illness which he fought for a year and a half with a tenacity thoroughly characteristic of "a man of power," leaves unfilled not one place but many every one of which might well deserve the ambition of the strongest and greatest among us.

ALPHONSE M. SCHWITALLA, S.J.

JOSEPH ELIAS THORNTON, M.D.

The people of Columbia, Missouri, were grievously shocked on July 4 when the news reached them that Dr. Joseph E. Thornton, for 33 years one of Columbia's most prominent physicians, had died suddenly at Neosho, Missouri, while en route home from a visit with relatives in Oklahoma. The cause of death was angina pectoris. Dr. Thornton had not been complaining and he appeared to be in good health although it was known that he had been running a high blood pressure for some time.

Dr. Thornton was born at Rocheport, Missouri, June 14, 1866. After attending the public schools, he entered the Medical School of the University of Missouri from which he was graduated in 1892. He did postgraduate work in New York for a year and then returned to Columbia where he continued to practice until his death. He was associated in practice with our President, Dr. F. G. Nifong, Dr. W. P. Dysart and Dr. D. A. Robnett.

Dr. Thornton was one of the most outstanding characters in our organization both as a

physician and as a citizen. He was universally loved in his community and highly regarded by all physicians who knew him. His high ideal of loyalty to his profession was an outstanding trait in his character and his devotion



JOSEPH ELIAS THORNTON, M.D.
Columbia
1866—1927

to his patients and his friends endeared him to all who knew him. He was a faithful worker in our organization, honored by his county society on numerous occasions and a delegate to the State Association for the past seven years. He was a member of the Board of Education of Columbia, a member of the Board of Curators of Stephens College and physician for the college, a Mason and a past president of the Rotary Club. Resolutions of sympathy were adopted by several organizations in Columbia. Those by Boone County Medical Society follow:

"We, the members of the Boone County Medical Society, are sorrowfully assembled this evening that we may endeavor to express in a measure our appreciation of the life and character of our fellow, Dr. Joseph E. Thornton, who died only yesterday. Accustomed as we are to have close contact with human life from its joyous birth on through its vicissitudes to the apparent tragedy of death, yet we are appalled when we again face this grim mystery.

We well know that change and decay is the

law of God, but that no energy is lost forever in God's universe. We realize that death is only a change from one life to another; we are content therefore to serve and die without a question why, buoyed by Hope and led by 'Kindly Light.' Our sorrow therefore is not caused by any pity for our brother who feared not the change, which came to him as he desired it should when in the full vigor of his active life and not by slow decay.

We grieve, because of our great loss in his genial companionship and for the loss of his helpful service. We do sympathize most sincerely with his sorrowing family, with his multitude of friends, and with his grateful patients.

It is not with stilted resolutions of respect or with fulsome words of praise we would memorialize him, but we would testify in simplicity and with humility to his sterling character. Our medical profession is indeed proud of him for his stalwart manhood; we honor him for his exemplary life; we praise him for his fidelity and friendly culture. He has not only honored himself, but his profession; more by maintaining our high ideals and the splendid ethical standards, which so distinguish our profession. Truly he measured up to an ideal of character and service.

Service, that embracing word; service he rendered without thought of reward other than the joy experienced in doing. He realized that the purest and the most exquisite pleasure was experienced when successfully serving others. All of this community knew and loved him; stalwart patriot, a public spirited citizen, a loving father and husband, a loyal friend, a skillful physician, a genial Christian gentleman."

FRANK L. HENDERSON, M.D.

On May 13, 1927, at his home in Stonington, Connecticut, died Dr. Frank Henderson. He had just spent the past winter in his beloved Italy, was returning home apparently well and in splendid spirits when, four days out from Cherbourg, he was stricken with a heart attack from which he succumbed two weeks later.

Dr. Henderson was born March 18, 1865, at Bridgeton, Missouri, of a family which represents at its flower the very best in our early American citizenship, numbering governors, soldiers, jurists among its sons, generally of unusual ability but always gentlemen in the highest sense. It is not surprising to one who is familiar with the history of this splendid family that Frank

Henderson should exhibit the beautiful nobility of character which marked him as a man apart. It was his heritage.

His early education was secured in the local schools of St. Louis, Missouri University and Missouri Medical College, now the Medical Department of Washington University, the latter school awarding him his medical degree in 1888. The early years of his medical life were spent in general practice and as assistant surgeon in the United States Army. In 1893 he took up postgraduate study of ophthalmology in New York and London. Returning home in 1895 he entered upon his life's work, the study, teaching, and practice of ophthalmology. In this field he became preeminent, being recognized by his colleagues as one of the leading men of the West, although his innate modesty prevented him from seeking out honors which would easily have come to him had he been inclined to accept them. An unusual wealth of plain common sense, discriminating cultural instinct, broad but close reading and a large clinical experience, were all utilized by him in such perfect proportion as to give his opinions and conclusions an almost characteristic clarity and simplicity. His teaching years came in a period marked by meager facilities, shorter time and lower standards generally than prevail now; but his very positive opinion of the wisdom in general medical education of stressing the relatively few but fundamentally important things in his special department of medicine, in contradistinction to the hopeless effort of making embryo oculists of all medical graduates, resulted in his students being unusually well grounded in the elementary facts of ophthalmological pathology and diagnosis and to that extent making them more valuable to their communities. His daily practice was marked by the same conservatism of method but illumined by an exquisite finesse of technique and a manual dexterity which made his work a joy to the observer and the most difficult task seem simple. His relationship with his patients was ideal, combining as it did dignity, perfect courtesy, kindness of heart and a keen professional interest. Small wonder so many loved him living and today mourn him dead.

While no physician has ranked higher in the hearts and in the respect of the medical profession of St. Louis and Missouri than Frank Henderson, still we who knew him most intimately, who have worked with him daily for years and who have been constant witnesses to the beautiful equanimity of his spirit and the soaring range

of his soul's vision,—we know it is not as a physician but as a man that he stood supreme.

What can a friend say that would be adequate eulogy of such a man? Courage so ample and fine it could not be forgotten. Dignity and poise so perfect it never failed to protect him from the familiarity of the thoughtless, yet so completely devoid of egotism that it never offended. Courtesy so knightly it was more evident to the menial than to his social equal. Honesty, charity, steadfastness to his ideals and to his friends,—what more can man need? Dr. Henderson had them all to a most remarkable degree and in their possession rests the secret of the place he occupies in our hearts and memories.

A man great in character and soul has passed.
H. H.

GEORGE L. SHERMAN, M.D.

Dr. George L. Sherman, formerly of St. Joseph, died in Frankfort, South Dakota, on Christmas Day, 1926. Dr. Sherman was born May 30, 1861, in Portsmouth, Ohio, and attended the public schools of Andrew County, Missouri. He received his medical degree from the Northwestern Medical College, St. Joseph, in 1882, after which he practiced in Iowa, Missouri, and South Dakota. He was one of the founders of the Central Medical College, St. Joseph, and was on the teaching staff at Central and Ensworth Medical Colleges. At various times, Dr. Sherman served on the United States Pension Examining Board. He also served in the capacity of superintendent of Camp Crook Hospital and as house physician and assistant superintendent of the C. R. Woodson Sanitarium, St. Joseph. Dr. Sherman was a member of the Buchanan County Medical Society, the State Association, and the American Medical Association.

ROBERT M. ROGERS, M.D.

Dr. Robert M. Rogers, Mansfield, 65 years old, died at his home, Thursday, June 2, 1927, of cancer of the pancreas. Dr. Rogers was a native of Missouri and received his early education in the public school at Henderson, Missouri, and his medical degree at Marion-Sims College of Medicine, now Medical Department of St. Louis University, St. Louis, in 1891. He practiced medicine at Mansfield for twenty two years and served as local surgeon of the Frisco Railroad Company.

Dr. Rogers was a member of the Wright-Douglas County Medical Society, having

served as alternate delegate to the State Association meetings in 1924, 1925 and 1927, and as vice president in 1925, and was president of that Society at the time of his death.

In Dr. Rogers' death the medical profession and his fellow men in his community have lost a noble physician and one who always expressed a desire to make his fellow physicians his best friends and to be paid to final rest by their hands.

WILLIAM H. STAUFFER, M.D.

Dr. William H. Stauffer, St. Louis, 65 years old, died at his home, Friday, June 24, 1927, after an illness of two years.

Dr. Stauffer was born in Canton, Ohio, and received his preliminary education at the Canton Normal School and graduated in medicine from the Medical Department of the University of Michigan, Ann Arbor, in 1887. He came to St. Louis in 1896 where he practiced, specializing in proctology, until his illness two years ago. At the time of his death he was a member of the staff of the Deaconess Hospital. He was a member of the St. Louis Medical Society, the Missouri State Medical Association, the Medical Association of the Southwest, the Ohio State Medical Association, the American Proctologic Society, the Michigan Alumni, and a Fellow of the American Medical Association. Dr. Stauffer is survived by his widow and one daughter.

PERCY ELMORE MILBOURNE, M.D.

Dr. Percy Elmore Milbourne, St. Joseph, 52 years of age, died May 18, 1927, of bronzed diabetes.

Dr. Milbourne was born in Sparks, Kansas, and received his early education in the public schools of Kansas, Missouri, Oklahoma and Iowa. He graduated in medicine from the Ensworth Medical College, St. Joseph, 1910, and took postgraduate work at Washington University, St. Louis. He practiced medicine in Nebraska for fourteen years, moving to Missouri about 1924. Dr. Milbourne specialized in obstetrics and gynecology. He was a member of the Buchanan County Medical Society, the State Association and the American Medical Association.

JOHN W. BURGESS, M.D.

Dr. John W. Burgess, Higginsville, 56 years old, died suddenly at his home, Thursday, June 9, 1927. Dr. Burgess received his preliminary education in the public schools and State Normal School and was graduated in medicine

from Barnes Medical College, St. Louis, in 1903. He was a member of the Lafayette County Medical Society and the State Association. He practiced his profession at Mt. Sterling and Belle, Missouri, before moving to Higginsville about seven years ago. During the last few years he specialized in ophthalmology.

Dr. Burgess is survived by his widow and two children.

JOEL H. TODD, M.D.

Dr. Joel H. Todd, Maryville, 77 years old, died Wednesday, April 6, 1297, after a protracted illness. His death was due to cerebral hemorrhage following a complication of diseases.

Dr. Todd graduated in medicine from the College of Physicians and Surgeons, Keokuk, Iowa, in 1877. For seven years he practiced his profession at Donnellson, Iowa. He then moved to Maryville where he continued his practice, specializing in dermatology, until December, 1925. He was a member of the Nodaway County Medical Society, the State Association and the American Medical Association.

ROBERT L. PIPKIN, M.D.

Dr. R. L. Pipkin, Springfield, 58 years old, died at his home, Thursday, May 5, 1927. Dr. Pipkin graduated in medicine from the Missouri Medical College, St. Louis, in 1894. He was a member of the Greene County Medical Society and the State Association. Dr. Pipkin's death came unexpectedly, he having just returned from Sedalia where he attended the 70th Annual Meeting of the Association.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1927

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Camden County Medical Society, December 31, 1926.
Holt County Medical Society, January 21, 1927.
Iron County Medical Society, March 4, 1927.
Madison County Medical Society, March 9, 1927.
Dent County Medical Society, April 2, 1927.
Ralls County Medical Society, April 4, 1927.
Platte County Medical Society, April 7, 1927.
Atchison County Medical Society, April 9, 1927.
Chariton County Medical Society, April 15, 1927.
Montgomery County Medical Society, May 7, 1927.

MISSOURI STATE MEDICAL ASSOCIATION

Seventieth Annual Session, Sedalia
May 2, 3, 4, 5, 1927

(Continued from the July JOURNAL)

MINUTES OF THE GENERAL MEETING Court House, Sedalia

Tuesday, May 3, 1927—Morning Session

The first scientific session of the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, Missouri, May 3, 4, 5, 6, 1927, was called to order at 9:15 a. m. by the President, Dr. William H. Breuer, St. James, who introduced as the presiding officer, Dr. R. A. Woolsey, St. Louis.

Dr. C. E. Hyndman, St. Louis, read a paper on "The Treatment of Fractures," which was discussed by Dr. M. L. Klinefelter, St. Louis, Dr. Edward M. Miers, Kansas City, Dr. Francis L. Reder, St. Louis, and Dr. E. C. Peelor, Clinton. The discussion was closed by Dr. Hyndman.

Dr. M. L. Klinefelter, St. Louis, read a paper on "The Traumatic Spine," which was discussed by Dr. C. B. Francisco, Kansas City, Dr. J. T. Hornback, Nevada, Dr. R. A. Woolsey, St. Louis, Dr. L. C. Chenoweth, Joplin, and Dr. H. E. Pearse, Kansas City. The discussion was closed by Dr. Klinefelter.

Dr. Charles Wallace, St. Joseph, briefly addressed the meeting with respect to the Medical Practice Act.

Dr. W. T. Coughlin, St. Louis, read a paper on "Fracture of Upper and Lower Jaw," which was discussed by Dr. E. G. Blair, Kansas City, Dr. Caryl Potter, St. Joseph, Dr. Tinsley Brown, Hamilton, and the discussion closed by Dr. Coughlin.

Dr. Thomas G. Orr, Kansas City, read a paper on "Injuries to the Chest," which was discussed by Dr. W. T. Elam, St. Joseph. There was no closing discussion.

The session adjourned at 12:30 p. m.

Tuesday, May 3, 1927—Afternoon Session

The second scientific session of the Annual Meeting of the Missouri State Medical Association, convened at 2:45 p. m., Dr. R. A. Woolsey presiding.

Dr. O. B. Zeinert, St. Louis, read a paper on "Injuries to the Abdomen," and Dr. H. S. McKay, St. Louis, read a paper on "Hernia in Its Relation to Industrial Surgery." These two papers were discussed by Drs. H. L. Kerr, Crane, Charles Wallace, St. Joseph, B. L. Myers, Kansas City, G. S. Dowell, Braymer, J. R. Green, Independence, C. T. Ryland, Lexington, and R. A. Woolsey, St. Louis.

Dr. J. Ellis Jennings, St. Louis, read a paper on "Injuries to the Eye," which was discussed by Dr. Guy L. Noyes, Columbia, and Dr. T. O. Klingner, Springfield. There was no closing discussion.

Dr. Robert Vinyard, St. Louis, read a paper on "Injuries to the Genitourinary Tract," which was discussed by Drs. W. J. Wills, Springfield, H. McClure Young, St. Louis, and James W. Helton, Chillicothe. Dr. Vinyard closed the discussion.

A paper on "Traumatic Emergency Surgery" was read by Dr. J. E. Castles, Kansas City, and discussed by Dr. Lloyd B. Clinton, Carthage. There was no closing discussion.

The following papers were read in the Symposium on Blood Transfusion:

"Medical Aspects," by Dr. Leo J. Reilly, St. Louis; "Surgical Aspects," by Dr. C. A. Vosburgh, St. Louis; "Laboratory Aspects," by Dr. R. B. H. Gradwohl, St. Louis.

A paper entitled "Some Observations on the Treat-

ment of Pernicious Anemia," by Dr. A. P. Munsch, St. Louis, and Dr. C. H. Neilson, St. Louis, was read by Dr. Munsch. This was followed by a paper on "Some Observations on Pernicious Anemia," by Dr. Frank I. Ridge, Kansas City. These papers were discussed by Dr. C. H. Neilson, St. Louis. There was no closing discussion.

Mr. J. Henry Caruthers, St. Louis, read a paper on "The Workmen's Compensation Act in Relation to Physicians," on which there was no discussion.

Wednesday, May 4, 1927—Morning Session

The third scientific session of the Seventieth Annual Meeting of the Missouri State Medical Association convened at 9:15 a. m., Dr. R. A. Woolsey, St. Louis, presiding.

Dr. Albert N. Coughlin, St. Louis, read a paper on "Movable Ascending Colon and Cecum," which was discussed by Drs. C. H. Neilson, St. Louis, F. G. Nifong, Columbia, Tinsley Brown, Hamilton, W. T. Coughlin, St. Louis, Jabez N. Jackson, Kansas City, Lawrence P. Engel, Kansas City, and W. F. Holbrook, Kansas City.

Dr. Jabez N. Jackson presented a paper on "Cancer of the Breast," which was discussed by Drs. W. T. Coughlin, St. Louis, Albert J. Welch, Kansas City, C. J. Hunt, Kansas City, and R. A. Woolsey, St. Louis. The discussion was closed by Dr. Jackson.

Dr. Lawrence P. Engel, Kansas City, read a paper on "Preoperative Care of Goiter Patients," and Dr. C. J. Hunt, Kansas City, read a paper on "Surgical and Allied Conditions of the Thyroid Gland." These papers were discussed by Drs. Henry J. McKenna, Kansas City, C. H. Neilson, St. Louis, W. T. Coughlin, St. Louis, Alphonse McMahon, St. Louis, and E. E. Mansur, Jefferson City. The discussion was closed by Dr. Engel and Dr. Hunt.

Dr. M. B. Clopton, St. Louis, read a paper on "Intestinal Obstruction in Infants," on which there was no discussion.

Wednesday, May 4, 1927—Afternoon Session

The fourth scientific session of the Annual Meeting of the Missouri State Medical Association convened at 1:15 o'clock, President Breuer presiding.

Dr. LeRoy C. Abbott, St. Louis, read a paper on "Treatment of Crippling Conditions in Children with Special Reference to Prevention of Deformities."

Dr. Archer O'Reilly, St. Louis, presented a paper on "The Care of Crippled Children." The papers by Drs. Abbott and O'Reilly were discussed by Drs. A. H. Baldwin, Pleasant Hill, and Robert M. Schaufler, Kansas City. There was no closing discussion.

A paper on "Automatic Bladder and Some Other Reflexes Associated with Gross Lesions of the Spinal Cord," was presented by Dr. G. Wilse Robinson, Kansas City, and discussed by Dr. H. McClure Young, St. Louis. There was no closing discussion.

Dr. A. J. Chalkley, Lexington, read a paper on "What Is the Matter with the Doctor?" which was discussed by Drs. H. L. Jones, Kansas City, and G. H. Howell, and President William H. Breuer, St. James. There was no closing discussion.

Dr. M. P. Neal, Columbia, read a paper on "The Leucocyte Count in Acute Surgical Conditions," prepared by Dr. Neal and Dr. Dudley A. Robnett, Columbia, which was discussed by Drs. Frank G. Nifong, Columbia, E. L. Stewart, Kansas City, E. Lee Myers, St. Louis, and the discussion closed by Dr. Dudley A. Robnett, Columbia.

A paper on "Suppurative Pericarditis, illustrated with Motion Pictures," was read by Dr. A. J. Welch, Kansas City. There was discussion by Dr. Albert S. Welch, Kansas City.

Dr. Carl A. Powell, St. Louis, read a paper on "Endocarditis," which was discussed by Dr. Franklin E. Murphy, Kansas City. There was no closing discussion.

Dr. H. E. Pearse, Kansas City, read a paper on "Pelvic Inflammation in Women," which was discussed by Dr. C. M. Rosser, Dallas, Texas.

Dr. O. Jason Dixon, Kansas City, read a paper on "The Diagnosis and Management of Acute Laryngeal Obstruction," on which there was no discussion.

Dr. E. Lee Myers, St. Louis, presented a paper on "Bronchoscopic Experiences in Food and Air Passages," which was not discussed.

Dr. W. D. Black, St. Louis, presented a paper on "Diseases of the Fundus of the Eye From the Standpoint of the Otolaryngologist," which was not discussed.

Wednesday, May 4, 1927—Evening Session

The general session of the Annual Meeting of the Missouri State Medical Association convened at 8 p. m., Dr. Emmett P. North, St. Louis, presiding.

There were addresses by the President, Dr. William H. Breuer, St. James, Dr. C. M. Rosser, Dallas, Texas, Dr. Jabez N. Jackson, Kansas City, and Dr. F. C. Waite, Cleveland, Ohio.

Thursday, May 5, 1927—Morning Session

The last scientific Session of the Missouri State Medical Association was called to order at 9:10 o'clock, by President Breuer.

Dr. Clinton K. Smith, Kansas City, read a paper, prepared by himself and Dr. Nelse F. Ockerblad, on "Significance of the Ureteral Kink and Experimental Clinical Study," which was discussed by Dr. Neil S. Moore, St. Louis, and Dr. F. M. McCallum, Kansas City. The discussion was closed by Dr. Smith.

The newly elected president, Dr. Frank G. Nifong, Columbia, addressed the session briefly.

Dr. George H. Ewell, Kansas City, read a paper on "Benign Prostatic Hypertrophy: Some Points in its Surgical Management," which was discussed by Dr. Clinton K. Smith, Kansas City, Dr. F. M. McCallum, Kansas City, Dr. Neil S. Moore, St. Louis, and Dr. C. S. Capell, Kansas City. Discussion was closed by Dr. Ewell.

Dr. William E. Leighton, St. Louis, read a paper on "Myoma of the Spermatic Cord," which was discussed by Dr. H. McClure Young, St. Louis. There was no closing discussion.

A paper on "The Five Most Common Errors in Obstetrical Practice," was read by Dr. George Kirby Sims, Joplin, and discussed by Dr. Neil S. Moore, St. Louis, and President W. H. Breuer, St. James. There was no closing discussion.

Dr. Lee Dorsett, St. Louis, read a paper on "Chronic Cervicitis," which was discussed by Dr. Geo. Kirby Sims, Joplin. There was no closing discussion.

Dr. F. M. McCallum, Kansas City, presented a paper entitled "An Unusually Large Calculus in a Vesical Diverticulum," which was discussed by Dr. George H. Ewell, Kansas City.

Dr. L. H. Slocumb, St. Louis, read a paper on "Gastroduodenal Ulcer: Its Etiology and Surgical Aspects," which was discussed by Dr. Frank I. Ridge, Kansas City, and Dr. R. B. H. Gradwohl, St. Louis. There was no closing discussion.

The following papers were read by title: "The Use of a Rubber Bag Inflated in the Bladder as an Aid to Bladder Surgery," by Dr. C. S. Capell, Kansas City; "Rectal Fissure," by Dr. W. R. Rainey, St. Louis.

The meeting adjourned at 12:20 o'clock.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

One Hundred and Twenty-ninth meeting,
May 9, 1927

1. PRESENTATION OF CASES:

A. PREGNANCY IN A CASE OF MYELO- GENOUS LEUKEMIA.—By DR. T. K. BROWN.

This is the final report of the patient shown at two previous meetings this year. The patient was admitted to Barnes Hospital April 26, 1927, not in labor, but confinement expected April 29 from menstrual history. She was apparently in the best general health of the entire pregnancy, with good appetite and no discomfort. The spleen had diminished in size to 17 cm. below the costal margin and the liver could not be certainly palpated. The red count was 4,100,000 with 75 per cent. hemoglobin and the leucocytes 64,500 with 21 per cent. myelocytes. On April 27, after a normal labor of 6 hours, under nitrous oxide-oxygen anesthesia, she delivered spontaneously a normal female infant weighing 3260 gms. The blood loss during delivery was less than normal and the blood clotted promptly. The infant shows no anatomical abnormalities and had 21,000 leucocytes with a normal blood picture on smear.

The mother has had a normal puerperium and has nursed her baby. There is some visceroptosis since delivery and both the liver and spleen are lower in the abdominal cavity. The upper margin of the spleen can easily be felt below the costal margin.

DISCUSSION

DR. J. ALBERT KEY stated that a negative calcium balance constantly occurred during lactation regardless of the calcium intake. He asked whether this might affect the leukemia and whether therefore it was advisable to continue nursing the infant.

DR. T. K. BROWN knew of no reason that such a negative calcium balance should affect the leukemia unfavorably. He pointed out that the course of pregnancy was normal, that the patient's condition was excellent, and that there was no clinical evidence that the lactation was exercising any ill effect.

2. A PRACTICAL METHOD OF TEACH- ING POSTURE.—By DR. F. H. EWER- HARDT.

This method of correcting posture is based on the theory that the cause of faulty attitude is bad bodily mechanics brought about by habit rather than poor musculature. This latter seems to be the prevailing belief of the day. There are, for instance, many men with powerful back and abdominal muscles who, none the less, have a very faulty posture. Faulty standing and sitting, incorrect shoes, poor nutrition and weakened musculature are contributory factors producing bad postural habits. The method of procedure to be employed therefore is to change the individual's bad postural habits into good postural habits, a problem in which the prime factor is oftime repeated efforts, and not developmental exercise. Exercises are used mainly for the purpose of aiding in the creating of a new posture sense and not to develop the back muscles to "bring the shoulders back."

It is essential that both parent and child be instructed in a correct understanding of proper bodily

mechanics and a knowledge to keep the corrected position. To this end a blackboard lecture is given the parent and child. Of great value are three shadowgraphs taken of the child's natural position; corrected in response to the parent's command; and corrected in response to the teacher's instructions. The main points to be emphasized are, that the child should carry the major portion of its weight on the balls of the feet; the hips should be brought back (we do not say, "draw the stomach in"); chest up (we do not say, "chest out" or "shoulders back" as these commands are always followed by a sway back condition); and lastly head high. This position will place the important segments of the body, one above the other, in approximately a perpendicular line and coincides with the law governing good posture. Another simple rule is to walk as tall as you can. One of the requirements for good posture is relaxation of the muscles. They should be in a condition of normal tone and not in a condition of strain.

A simple test to confirm good posture, and which at the same time forms a part of the regular treatment, consists in raising the heels without swaying the body forward. An individual who assumes the position as above indicated and is able to raise his heels without swaying his body forward may be assumed to be in a good mechanical position.

The treatment consists primarily in causing the patient to take the posture test 15 to 20 times a day for ten days and making an honest effort to hold this position for as long a time as he can. This repeated testing, supplemented with certain forms of exercise, causes the patient in time to develop a new posture sense. In a case of lax, sagging abdominal muscles it is essential that these be strengthened and shortened by proper isolated abdominal exercises.

DISCUSSION

DR. J. ALBERT KEY asked if the method outlined by Dr. Ewerhardt was followed by good results.

DR. EWERHARDT, in closing, answered that teaching the children to assume the correct posture in the gymnasium and teaching the mother to observe and recognize the correct posture were essential in securing good results.

3. THE OCCURRENCE OF A BLACK PIGMENT PRODUCING ANAEROBIC MICROORGANISM ON THE NORMAL MUCOUS MEMBRANES AND SKIN IN PATHOLOGICAL CONDITIONS.— By DR. KENNETH L. BURDON.

The organism is a small, polymorphic, Gram negative, nonspore-bearing, nonmotile, anaerobic diplococcobacillus. Its principal characteristic in culture is its power to break down hemoglobin to form a brownish-black melanin-like pigment. Inoculations of pure cultures have so far failed to demonstrate any pathogenic power for guinea pigs or for rabbits.

The distribution of this microbe on the normal mucous membranes and skin has not been described by others, and its frequent occurrence in various pathological conditions has not been generally known. Its occurrence in small numbers in alveolar abscesses has been mentioned by Gilmer and Moody,¹ and Oliver and Wherry² cultured it from the throat, tonsils, infected surgical abdominal wound, from urine of a case of suspected kidney infection, and from the feces of a case of chronic dysentery following an amebic infection. The latter authors suggested the name *Bacterium melaninogenicum*.

The present paper reports the results of studies of the distribution of this organism in the normal mouth and on the normal genitalia, and of its relation to pyorrhea alveolaris, puerperal infection and other pathological conditions. The findings may be summarized as follows:

(1) The bacterium was found to be a constant inhabitant of the normal human mouth (and also of the mouths of guinea pigs, rabbits, and dogs) where it is localized chiefly at the dental gingival margin. Its numbers at the gum margin were found to be determined by the cleanliness and anatomical condition of the gums and teeth. It was absent or present in very small numbers, when the gum margin was anatomically perfect and clean, but abundant when the margin was blunted, loose, or covered with tartar. The majority of the more than 200 individuals examined harbored a great many of these organisms at some part of the gum margin at least. The bacterium was found to be very abundant also in the crypts of excised tonsils.

(2) The same organism was found to be a constant inhabitant of the mucous membrane and skin of both the male and female genitalia, where its numbers were directly influenced by the degree of cleanliness. On the female genitalia it was found constantly most numerous externally (about the clitoris), but also was present in the vagina and (in small numbers) in the cervix in some cases.

(3) The bacterium was found in moderate numbers in cultures from four cases of Vincent's infection, from three cases of tooth abscess, and in the nasal discharge from an infected sinus. It was present in abundance in cultures from the sputum of three patients with lung abscess, one patient with bronchiectasis, and in material obtained at operation from one case of lung abscess. Very many were found in cultures from an experimental lung abscess produced by Dr. Duff Allen in a dog.

(4) Cultures made in the Department of Obstetrics have revealed the presence of the bacterium in great numbers, associated with other species, in a very large proportion (90 per cent.) of uterine infections occurring here. Schwarz and Dieckmann³ mention 22 cases in which anaerobic blood agar cultures from the uterus developed a heavy growth of the organisms, and 9 cases in which blood cultures contained them as well. One point of clinical interest was emphasized, namely, the natural habitat of this organism is the external genitalia, but it frequently enters and infects the uterus postpartum. Further, the bacterium is apparently most abundant on the genitalia of persons of less cleanly habits, and in the same type of patient, according to Schwarz and Dieckmann³ uterine infection of the subacute type most commonly occurs.

(5) An especially detailed study of chronic periodontal infection, including 22 cases of clinically typical pyorrhea alveolaris, showed that the pigment producing bacterium is constantly present in large numbers in the periodontal tissue in these conditions and that it increases in number with the progress of pyorrheal lesions until in advanced cases with deep pockets it outnumbers any other one organism. It decreases in number when the tissues are healing under treatment. The bacterium must be regarded as one of the principal bacterial factors at all stages of pyorrhea.

1. Gilmer, T. L. and Moody, A. M.: A study of the Bacteriology of Alveolar Abscesses and Infected Root Canals. J.A.M.A. 43:2023 (December) 1914.

2. Oliver, W. W. and Wherry, W. B.: Notes on Some Bacterial Parasites of the Human Mucous Membranes. J. Infect. Dis. 28:340, 1921.

3. Schwarz, O. H. and Dieckmann, W. J.: Puerperal Infection due to Anaerobic Streptococci. Am. J. Obst. & Gynec. 13:467 (April) 1927.

DISCUSSION

MR. PHILIP L. VARNEY mentioned his interest in these organisms in lung abscesses. They can be isolated from lung abscesses produced experimentally by the injection of material from the tonsils. These pigment producing organisms destroy blood and should be regarded as an important factor in the diseases with which they are associated.

DR. WM. J. DIECKMANN remarked that these organisms have been recovered from rather serious postpartum uterine infections. Such cases are prone to develop an anemia which may be due in part to the blood destroying properties of the bacteria.

DR. CHARLES A. STONE asked if methods for destroying these organisms had been studied.

DR. KENNETH L. BURDON in closing, stated that no tests of the effect of germicides on pure cultures had been made. This would probably be of doubtful value since we are concerned with mixed cultures in the lesions. One therapeutic measure clearly indicated however is oxygenation. Permanganate and peroxide have been used in obstetrical cases here and dentists report excellent results with sodium perborate.

4. A REPORT OF THE OCCURRENCE OF HYPERSENSITIVENESS IN FIVE GENERATIONS OF ONE FAMILY—By MISS ABIGAIL ELIOT SMITH.

The material for this paper was obtained from a study of the occurrence of clinical evidence of hypersensitiveness in the descendants of a single pair of individuals. These two individuals were closely related, being first cousins, and both were hypersensitive. Their descendants include 64 persons and four generations.

In addition to these 64 descendants, 23 persons married to members of the family were studied and used as a group of controls, that is, an unselected group of persons not related to one another. By means of questionnaires, a history of each member was obtained regarding allergic manifestations. Six well defined allergic phenomena were elected from the group of allergic manifestations. These were, asthma, hay fever, vasomotor rhinitis, urticaria, angioneurotic edema and eczema. Individuals who gave a history of one or more of these clinical phenomena were counted as positive for allergy. The results are briefly summarized as follows:

Asthma, 4 cases. Hay fever, 11 cases. Vasomotor rhinitis, 15 cases. Urticaria, 17 cases. Angioneurotic edema, 6 cases. Eczema, 14 cases.

Of the 64 descendants, there were 36 positive, or 56.2 per cent., while of the 23 controls, only one was positive.

SUMMARY BY GENERATIONS

P	2 persons.....	2 positive
f1.....	5 persons.....	5 positive
f2.....	24 persons.....	14 positive
f3.....	28 persons.....	12 positive
f4.....	4 persons.....	2 positive

SUMMARY ACCORDING TO UNILATERAL OR BILATERAL INHERITANCE

Inheritance	Children	Positive	Per Cent.
Both parents positive	9	8	88.8
One parent positive	50	25	50
Neither parent positive	2	0	0

CONCLUSION

The familial nature of the allergic tendency is clearly demonstrated in this group. An attempt was

made to show the Mendelian ratios in the inheritance of this character, but the group is so small that no final conclusion can be drawn. It appears, however, from the data obtained that the inheritance of the allergic tendency corresponds to that of a dominant character.

DISCUSSION

DR. HARRY ALEXANDER found the report most interesting and important chiefly because it emphasizes the familial tendency of allergy. Allergy in man may manifest itself in the skin, in the bronchi or in the intestines or in all of these sites. In allergic persons, skin reactions are demonstrable in only about 50 per cent. The tendency of allergy to be familial is of diagnostic value since the history of allergic phenomena in other members of a family may aid in differential diagnosis. He felt gratified that Miss Smith was able to secure such a complete record of so many individuals in the same family.

DR. J. ALBERT KEY asked if instances of skipping a generation were reported in familial allergy.

MISS ABIGAIL E. SMITH in closing answered that some reports state that a generation has been skipped.

CALDWELL COUNTY MEDICAL SOCIETY

The Caldwell County Medical Society met in the Public Library at Hamilton May 26 with the following members present: Drs. E. B. Thompson, Breckenridge; G. S. Dowell, Braymer; Tinsley Brown, Hamilton; H. H. Patterson, Braymer; L. J. Eads, Hamilton; B. F. Carr, Polo; W. S. Shouse, Kingston. The visitors, Drs. L. P. Forgrave and H. J. Ravold, St. Joseph, and A. R. Wilsey, Breckenridge, were accorded all the privileges of the Society. The minutes of the meeting held at Polo, March 24, were read and approved.

Dr. L. P. Forgrave gave an address on "Fractures of the Skull," illustrated by X-ray pictures, which proved to be interesting and instructive.

Dr. H. J. Ravold read a paper on "The Diagnosis of Gallbladder by the Use of Tetroiodophenolphalein sodium salt. He explained the use of this preparation by a large number of X-ray pictures. This method was new to the members of our Society and was very much enjoyed.

The visitors were given a vote of thanks.

The Society made arrangements to secure the names of all the crippled children under twenty years of age in our county for the survey of the counties of the state which is soon to be made.

Meeting of June 29

The Caldwell County Medical Society met in the Methodist Episcopal Church, Breckenridge, June 29, at two p. m., with the president, Dr. G. S. Dowell, in the chair. The following members were present: Drs. Tinsley Brown, Hamilton; G. S. Dowell, Braymer; B. F. Carr, Polo; E. A. B. Thompson, Breckenridge. Dr. C. E. Thompson, Harlingen, Texas, was a visitor. The minutes of the meeting of May 26 were read and approved.

Dr. B. F. Carr addressed the Society on his early experience of practice among the rural community.

Dr. Tinsley Brown gave the history of a number of fractures of the arm and forearm, with X-ray illustrations.

The annual picnic meeting of the Society will be held at Braymer, the exact date to be determined later.

TINSLEY BROWN, M.D., Secretary.

CARTER-SHANNON COUNTY MEDICAL SOCIETY

The Carter-Shannon County Medical Society met at Van Buren, July 1, 1927, with 85 per cent. of the members present. The president, Dr. C. C. Sheets, presided and Dr. R. I. Davis acted as secretary, Dr. H. L. Meador having moved from Van Buren. The officers elected for the ensuing year were: President, T. W. Cotton, Van Buren; secretary-treasurer, Frank Hyde, Eminence.

Dr. A. J. Johnson, Grandin, was elected an Honor Member of the Society.

An interesting case of "Cystocele of Labia Majora" was presented by Dr. Cotton.

A proposition from the Stoddard County Medical Society to meet with us on July 12 was accepted, and the necessary committees were appointed to arrange for entertaining the visitors with a fish fry at noon.

FRANK HYDE, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society met in its June Festival Session, at the beautiful Maurer Lake, Excelsior Springs, Thursday, June 30, at 6 p. m. Fifty members, wives and friends partook of the sumptuous basket dinner under the majestic sugar maple trees. Every conceivable article of diet that could lay claim to excellence of any sort graced the long, rustic tables provided by the lake management.

Dr. J. Q. Chambers, Kansas City, addressed the scientific session his subject being "Some Points in the Management of Heart Disease." The doctor is a forceful, convincing speaker and illustrated his points by reports of cases from his Kansas City clientele. He dwelt at length on heart murmurs and their cause. Practically every known remedy was discussed. The address was most timely in view of the increasing list of fatalities attributed to heart disease. Full discussion by members followed.

The scientific session was held in the parlors of the famous Elms Hotel, a sprinkle of rain driving the gathering to shelter at the end of the feast. Our Ladies' Auxiliary held their meeting at the beautiful home of Dr. and Mrs. H. J. Clark, on Elms Boulevard. The Elms Hotel management cordially invited a return meeting, assuring the Society of a welcome such as the Elms delights in.

Col. W. E. Chambers, surgeon in charge of the U. S. Veterans Hospital at Excelsior Springs, was present as an honorary member, and invited the Society to fix our August meeting at the great institution; the invitation was unanimously accepted. A splendid, instructive session is anticipated. Members of our Society find it a good investment; good members make it so.

J. J. GAINES, M.D., Secretary.

CRAWFORD COUNTY MEDICAL SOCIETY

The Crawford County Medical Society met at the office of Dr. W. J. Parker, Steelville, July 14, at 2:00 p. m., President R. P. Royse presiding. The minutes of the previous meeting were read and approved. Members present: Drs. R. P. Royse, Bourbon; W. G. Henderson, Cuba; A. L. Barnard, Rolla; W. J. Parker, Steelville. Visitors: Drs. W. P. Mattox, Sullivan; C. E. Matlock, St. Louis; W. H. Breuer and J. B. Underwood, St. James; A. S. McFarland, Rolla; E. L. Hume, Bourbon; R. C. Parker, Steelville.

Some interesting and instructive papers were read among which was one on "Abdominal Pain" by Dr. McFarland and another on "Genitourinary Disease"

by Dr. Barnard, both of which elicited very interesting discussion.

Several clinics were present for examination and treatment. Altogether it was one of the most instructive and profitable meetings in the history of the Society.

Refreshments were served by Mr. L. J. Jonas for which all of the members present were gratefully thankful.

The meeting adjourned to meet again October 20 at Dr. Parker's office in Steelville.

W. J. PARKER, M.D., Secretary.

DAVIESS COUNTY MEDICAL SOCIETY

The Daviess County Medical Society held an excellent meeting at the Woodruff Hotel, Gallatin, July 6, 1927, following a six o'clock dinner given for the doctors and their wives. Dr. J. D. Dunham, President, presided. Members present: Drs. A. G. Minnick, Lock Springs; J. L. Reich, Altamont; M. A. Smith, L. R. Doolin and P. L. Gardner, Gallatin; R. V. Thompson, Jamesport; Frank Hedges, P. C. Smith, and J. D. Dunham, Pattonsburg; N. M. Wetzel, Jameson.

The guests of the Society, Dr. Frank C. Neff and Dr. R. L. Haden, Kansas City, were sent to us by the Postgraduate Committee of the State Association. Dr. E. J. Goodwin, St. Louis, Secretary of the State Association, Dr. Spence Redman, Platte City, Councilor of the district, Dr. W. T. Martin, Albany, and Dr. Grant M. Sutcliffe, Jamesport, were present and helped make the meeting a success. It was the opinion of those present that this was one of the best meetings ever held by the Society.

Dr. Neff gave a very instructive talk on "Colitis" and had charge of the clinics furnished by Drs. M. A. Smith, Frank Hedges, P. C. Smith and N. W. Wetzel. The clinics were all very interesting and the strong points of diagnosis and treatment were brought out by Dr. Neff.

Dr. Haden gave a most interesting and helpful talk on "Anemia," including diagnosis and treatment.

The Society felt very much honored to have Dr. E. J. Goodwin present and we feel sure that his address will serve to stimulate all the members to put forth greater effort in the future to make their influence felt throughout the state as one of the counties with a live society.

Dr. Spence Redman is always a welcome visitor and his presence and address were greatly appreciated by all.

We have taken on new life and are planning some public health clinics to be held in the near future and public health talks to be given by prominent doctors of the state, also to run health notes in the county papers.

N. W. WETZEL, M.D., Reporter.

HOLT COUNTY MEDICAL SOCIETY

The Holt County Medical Society met in regular session, June 9, 1927, in Maitland. The meeting was called to order at 2 p. m. by the president, Dr. D. C. Perry. The following members were present: Drs. Ira Williams, Maitland; F. E. Hogan, and D. C. Perry, Mound City; W. S. Wood, E. F. Kearney and O. C. Gebhart, Oregon; J. M. Davis, Craig.

Drs. E. M. Findley and E. L. Morgan, Graham, and T. O. Davis, Maitland, were guests of the Society.

Dr. Perry, in his able manner, presented the subject of "Acute Arthritis." The interest in this topic was evident from the active discussion which followed.

OLIVER C. GEBHART, M.D., Secretary.

JASPER COUNTY MEDICAL SOCIETY

The Jasper County Medical Society held its last meeting of the season June 10, 1927, at the Broad-lawn Inn. A chicken dinner was served at 7 p. m. to about 175 guests which included 50 regular members of the Society, about 25 members of the Southwest Dental Association and 100 medical men from towns in Missouri, Kansas, Oklahoma and Arkansas within a radius of 100 miles. Following the dinner the president, Dr. L. C. Chenoweth, introduced the speakers of the evening.

Dr. Fred Rankin, Rochester, Minn., read a paper on "Carcinoma of the Colon," reviewing the literature on the subject to date. He discussed subjective and objective symptomatology of these conditions and related in a general manner the method of surgical treatment, indicating that in this procedure the mortality rate had been reduced to about ten per cent.

Dr. Charles H. Mayo, Rochester, Minn., delivered an address dealing principally with the diagnosis and postoperative treatment of surgical cases. He talked also along general lines of health and disease, pointing out the effect not only of overeating but of the condition which is manifested by certain individuals following the ingestion of certain protein foods.

Dr. Mayo traced briefly the progress of surgery in the past few decades and discussed recent discoveries which, he said, have lowered the mortality rate from 15 to 3 per cent.

GEORGE KIRBY SIMS, M.D., Secretary.

MERCER COUNTY MEDICAL SOCIETY

The Mercer County Medical Society met at the office of Dr. J. M. Perry, Princeton, June 30, 1927.

Dr. A. S. Bristow, Princeton, read an interesting paper on "Angina Pectoris." Dr. Bristow's paper was excellent from all points of view and was discussed by Dr. C. J. Laws, Princeton.

Dr. G. M. Bristow, Princeton, and Dr. Harvey Nally, Cainesville, were elected Honor Members of the Society.

The question regarding the organization of an auxiliary was brought up but the matter was deferred until the next meeting.

J. M. PERRY, M.D., Secretary.

VERNON-CEDAR COUNTY MEDICAL SOCIETY

The Vernon-Cedar County Medical Society met in the county court room of the Court House, Nevada, June 9, 1927. The meeting was called to order by the president, Dr. I. W. Amerman, at 2 p. m. Members present: Drs. Forest L. Martin, Eldorado Springs; A. G. Altham, Sheldon; C. W. Musser, Metz; I. W. Amerman, T. D. Combs, T. B. M. Craig, E. A. Dulin, H. W. Lancaster, W. S. Love, T. B. Todd and J. M. Yater, Nevada. Visitors: Drs. Hermon S. Major and H. P. Kuhn, Kansas City; George H. Thiele and R. E. Crabtree, Butler; Dr. Richardson, Tiffin. The visiting ladies were: Mrs. H. P. Kuhn, Kansas City; Mrs. George H. Thiele, Butler; Mrs. A. G. Altham, Sheldon; Mrs. J. M. Yater, Mrs. G. W. Petty and Mrs. T. D. Combs, Nevada.

After the preliminary business Dr. T. B. M. Craig gave a short account of the State Association meeting held in Sedalia, reporting that a revision of the Constitution and By-Laws had been made and that the 1928 meeting of the Association will be held in Columbia.

Dr. Hermon S. Major, Kansas City, talked on

"Mental Hygiene or Mental Health." He spoke of the children's guidance clinics established in the larger cities where children of unusual habits may be sent by parents or teachers for instruction. He stated that each year approximately 50,000 people of the United States enter hospitals for treatment of mental conditions, many of these unfortunates being unable to cope with the restless age in which we are living.

Dr. H. P. Kuhn gave a lecture on "Goiter." He stated that, while the absence of certain foods makes goiter more common and certain water supplies seem a causative factor, the direct cause of the disease is still in doubt. Just at this time, he said, the disease is very prevalent in southern Missouri and northern Arkansas. He expressed the opinion that fish is one of the foods that in a large measure prevent goiter.

The next meeting of the Society will be held in Eldorado Springs, July 14.

J. T. HORNBACK, M.D., Secretary.

WOMEN'S AUXILIARY TO THE MISSOURI STATE MEDICAL ASSOCIATION

Third Annual Meeting, Sedalia

May 3, 4, 1927

MINUTES OF THE EXECUTIVE BOARD

First Methodist Episcopal Church

Tuesday, May 3, 1927—Morning Session

The Third Annual Meeting of the Executive Board of the Women's Auxiliary to the Missouri State Medical Association was called to order Tuesday, May 3, 1927, in the Sunday School parlors of the First Methodist Episcopal Church, Sedalia, at 11 a. m., by the President, Mrs. A. B. McGlothlan, St. Joseph. The following were present:

Mrs. A. B. McGlothlan, St. Joseph, President.
Mrs. W. M. Bickford, Marshall, President-Elect.
Mrs. A. W. McAlester, Kansas City, First Vice President.

Mrs. Willard Bartlett, St. Louis, Chairman of Organization.

Mrs. C. T. Ryland, Lexington, Treasurer.

Mrs. Harry F. Parker, Warrensburg.

Mrs. David S. Long, Harrisonville.

Mrs. Frank Hinchey, St. Louis.

Mrs. M. P. Overholser, Harrisonville.

Mrs. George H. Hoxie, Kansas City.

Mrs. M. A. Hanna, Kansas City.

The Secretary read extracts from the minutes of the former meeting. It was not necessary to read the minutes in full as they had already been approved and published.

The Corresponding Secretary was unable to be present and her report was read by Mrs. Hanna.

The Treasurer gave a brief report showing that 23 counties paid dues for 1926-1927, whereas only 18 counties paid dues for the preceding year. She reported a balance of \$285.14 in the treasury with outstanding bills amounting to \$82.06.

A motion was made by Mrs. Frank Hinchey, seconded by Mrs. George H. Hoxie, that the chairmen of standing committees give brief reports of their year's work at this meeting, with their recommendations in full. Motion carried.

Mrs. Willard Bartlett, Chairman of Organization, reported that two new counties had been organized during the year and one county reorganized. The new counties are Holt County, Mrs. F. E. Hogan, Mound City, President; Bates County, Mrs. E. N. Chastain, Butler, President. Cole County was reorganized with Mrs. S. P. Howard, Jefferson City,

President. A total of twenty eight counties were reported as organized, twenty three active. The Chairman recommended:

1. That auxiliary presidents be asked to assist the Chairman of Organization to organize counties adjacent to their own.

2. That presidents of county auxiliaries, by virtue of their office, be made members of the State Executive Board.

3. That an amendment committee be appointed by the President to present an amendment providing that the ex-presidents, upon retiring from the presidency, shall automatically become permanent members of the Executive Board.

These recommendations were approved and referred to the Annual Meeting for consideration.

The report of the Chairman of Education, was given by Mrs. W. M. Bickford. The following recommendations were approved and referred to the Annual Meeting for consideration:

1. That each county auxiliary endeavor to have at least one Hygeia program presented at each Parent-Teacher Circle during the coming year.

2. That the Seymour Plan for Disease Prevention be continued.

3. That we attempt to have placed an auxiliary member on each council of Girl Scouts, Girl Guides, Campfire Girls, or any other organization giving instructions to girls in first aid, home care of the sick, child nursing, etc.

Mrs. David S. Long gave the report of the Chairman of Hygeia and proposed the following recommendations which were approved by the Board:

1. That county Hygeia chairmen be appointed and their names forwarded to the State Chairman.

2. That the auxiliaries continue their efforts to interest their own members to subscribe for and read Hygeia.

3. That the Auxiliary attempt to have a discussion of the use of Hygeia on the program of the county teachers' meeting in its endeavor to connect the knowledge of the medical profession with the teaching profession.

4. That we continue to place Hygeia in public reading rooms, hospitals, farm bureaus, and among leaders of youth.

5. That the auxiliaries petition county superintendents of schools to recommend Hygeia as a reference in the teaching of physiology and hygiene.

6. That the auxiliaries attempt to secure the co-operation of the newspapers to publish excerpts from Hygeia news sheets.

7. That each county auxiliary pledge moral support to reach the Hygeia quotas assigned to them.

The report of the Chairman of Legislation was given by Mrs. Overholser.

The President reported that Mrs. Montgomery was prevented from serving in the capacity of editor of the Auxiliary Department of THE JOURNAL, and that she had attended to this work. She said that it was very difficult for anyone not in close touch with the county presidents to carry on this part of the work and for this reason she recommended that the President, the Chairman of Education, or possibly the Corresponding Secretary be appointed to serve in the capacity. This recommendation was approved by the Executive Board.

At this time the announcement was made that luncheon was served and a motion carried to adjourn to 7 p. m.

Luncheon Meeting

Luncheon was served by the ladies of the First Methodist Episcopal Church to about fifty five state and county officers and delegates and guests.

The invocation was pronounced by Mrs. M. P. Overholser, and Mrs. Yancey, of Sedalia, gave the address of welcome. The response was given in a very charming manner by Mrs. Willard Bartlett.

The address of the day was given by Dr. Frank D. Dickson, Kansas City, on the Missouri Society for Crippled Children. Dr. Dickson reviewed the work that has been done by different organizations for the care of crippled children and explained the purpose of the legislation creating a commission for the study of the methods employed by various states in caring for the crippled child.

He said that the idea of organizing a state society for the care of the crippled child is to correlate the work of all interested organizations, to assist in making surveys within the state and to mold public opinion in favor of legislation for adequate rehabilitation, education and vocational placement of the crippled child.

Mrs. Hoxie spoke on "Cooperation with Other Organizations." She showed how the tendency in women's organizations is growing in looking toward scientifically trained persons in medicine and public health for speakers and programs. She believes that one of the greatest services the women of the auxiliaries can perform is to use their influence to get club program committees to accept suggestions for such trained workers in making up their programs.

Immediately following the luncheon the ladies were escorted to the Elks Club where a beautiful musical program, consisting of vocal and piano and violin numbers rendered by Sedalia talent under the direction of Mrs. Edwin F. Yancey, was given for the entertainment of the visiting ladies. A valuable addition to this program was a reading of a scene from "Mary Stuart" by Mrs. Bartlett.

At the close of the program the ladies were taken for a drive over the city which terminated at the Country Club where refreshments were served, the hostesses being the gracious doctors' wives of Sedalia.

Evening Meeting

The Executive Board meeting was resumed at 7 p. m. in the lounge of the Hotel Terry. Reports of special committees were given and the President reported that she had asked Mrs. Hoxie to represent her at the autumn meeting of the Tuberculosis Society in Jefferson City. Mrs. Hoxie reported that she gave a short talk setting forth the purposes of the Auxiliary and that the State Tuberculosis Society seemed very eager to cooperate with us in every way.

President McGlothlan reported that following this meeting she had received a letter from the Executive Secretary of the Tuberculosis Society, Mr. J. W. Becker, requesting the assistance of the Auxiliary in conducting the Christmas Seal sales. A letter received from him later stated that the County Tuberculosis Societies had been notified that the expenditure of proceeds from Christmas Seal sales for placing Hygeia in their schools is a legitimate use of such funds.

On motion by Mrs. Overholser, seconded by Mrs. Bickford, and carried, the Executive Board recommended to the Annual Meeting that the presidents of county auxiliaries be advised of this action of the State Tuberculosis Society and that they ask the auxiliaries to assist in every possible way in Christmas Seal sales.

Mrs. Hoxie, who represented President McGlothlan at the meeting of the permanent May Day Child Health Day Committee in Jefferson City, February

6, reported that representatives from all the health organizations in the state were called together at this meeting as a permanent May Day Health Day Committee to formulate plans for the state. Mrs. Hoxie said that these plans were to be thoroughly discussed next day by Dr. Krause. The plan provided for examinations this spring of preschool and school children; for the giving of a button by the State Board of Health to each "six-point" child and a ribbon for each of the following points: (1) Birth certificate. (2) Immunization against diphtheria and smallpox.

A recommendation by Mrs. Hoxie, seconded by Mrs. Hinchey, that county presidents be asked to furnish County May Day Chairmen from their auxiliaries, was adopted.

Mrs. Bartlett, who represented President McGlothlan at both organization meetings of the Missouri Society for Crippled Children, held in the auditorium of the Washington University Medical School, St. Louis, gave the following report:

The first meeting, held February 18, with Dean McKim Marriott presiding, was addressed by Dr. Frank D. Dickson and by members of the Federated Clubs from over the state. The delegates inspected the Elias Michael School for Crippled Children. A temporary organization was formed with Dr. Marriott as president. On April 15 a second meeting was held at which Daddy Allen, President of the International Society for Crippled Children, and Senator Gordon, a member of the Missouri Commission for the Study of Crippled Children, gave addresses. A permanent organization was perfected at this meeting. Details of the state plans, as presented by Mrs. Bartlett and by Dr. Dickson at the luncheon, were discussed, and the Executive Board recommended that the Auxiliary cooperate in the formation of county societies wherever feasible.

Mrs. McGlothlan reported that a movement was on foot for the establishment of state and county parks and that the Auxiliary had been requested to appoint a representative to a conference to be called in the interests of the movement. Mrs. Bickford moved, Mrs. Long seconding, that such representative be appointed by the incoming president. Motion carried.

These names were presented by the President for the Credential Committee: Mrs. Harry F. Parker, Chairman; Mrs. Wm. R. Patterson, Mrs. T. J. Draper. For the Resolutions Committee: Mrs. A. W. McAlester, Chairman; Mrs. Frank Hinchey, Mrs. M. P. Ravenel. For the Nominating Committee: Mrs. M. P. Overholser, Chairman; Mrs. H. McClure Young, Mrs. K. N. Chastain, Mrs. Frank Hinchey, Mrs. J. R. Hampton, Mrs. E. T. Gibson, Mrs. D. F. Manning.

These nominations were approved by the Executive Board.

On motion adjourned.

Wednesday, May 4, 1927—Afternoon Session

The new Executive Board met in a Sunday School room of the First Methodist Episcopal Church at 4:30 p. m., Mrs. W. M. Bickford, presiding. Mrs. Bickford appointed the following chairmen of committees: Chairman of Education, Mrs. C. H. Sudarth, Excelsior Springs; Chairman of Hygeia, Mrs. A. B. McGlothlan, St. Joseph; Chairman of Legislation, Mrs. E. T. Gibson, Kansas City; Corresponding Secretary and Editor of Auxiliary Department of THE JOURNAL, Mrs. L. S. James, Blackburn; Auxiliary Representative to the State and County Parks Conference, Mrs. M. P. Overholser, Harrisonville.

Mrs. M. P. Overholser moved, Mrs. Hinchey

seconded, that the President be authorized to appoint a representative to the Missouri Society for Crippled Children. Carried.

The President appointed Mrs. George H. Hoxie, Kansas City, to represent the Auxiliary to the Missouri Society for Crippled Children.

The program outlined by the Committee on Resolutions was adopted, as follows:

1. That the Seymour Plan for Disease Prevention be continued.

2. To stress Hygeia more than ever this year, so that we might double the subscription in Missouri.

3. That the Auxiliaries attempt to have a discussion of the value of Hygeia to school health work on at least one program of the county teachers' meetings.

4. That the State and county auxiliaries cooperate with the Missouri Society for Crippled Children in their work for the crippled child.

5. That the county auxiliaries be urged to cooperate with the State Health Department in the formation of County May Day Committees, and assist in every possible way in carrying on the May Day Child Health Day work.

6. That the county auxiliaries be encouraged to assist in every way in the sale of Red Cross Christmas Seals.

On motion adjourned *sine die*.

MRS. M. A. HANNA, Secretary.

MINUTES OF THE GENERAL MEETING

First Methodist Episcopal Church

Wednesday, May 4, 1927—9:30 a. m.

The General Meeting of the Third Annual Meeting of the Women's Auxiliary to the Missouri State Medical Association was called to order by the President, Mrs. A. B. McGlothlan, St. Joseph, at the First Methodist Episcopal Church, Sedalia, Wednesday, May 4, 1927, at 9:30 a. m.

Since the minutes of the previous meeting had been corrected and published in THE JOURNAL the reading of the minutes was dispensed with.

REPORT OF THE PRESIDENT

It has been a pleasure to serve you as President, although the honor and work were thrust upon me without warning on your part and without preparation on my part, when I was in the midst of a year filled with other duties. The result was that I turned a portion of my home into an office, equipped myself with a desk, a typewriter which I do not use, secured an interest in a second-hand mimeograph, made a contract with a business college for the purpose of using student work, and settled down to making a business of my public work.

My first task was to secure, with the assistance of the former president, Mrs. Overholser, a competent chairman on whom I could depend to assist in planning and to carry on the work of the departments. We felt that if the President-Elect could be persuaded to act as Chairman of Education this arrangement would be most satisfactory to the administration and would, in addition, be a valuable training in carrying on the work of president when that duty should devolve upon her. Mrs. Bickford has carried this work most satisfactorily. Mrs. Long continued as Chairman of Hygeia and after Mrs. Bellow's resignation as Chairman of Legislation, Mrs. Overholser accepted that position.

These three chairmen have met me frequently in Kansas City to plan the work of the departments and carry out the plans laid down at the board meeting following the Annual Meeting in St. Louis last year. These plans were:

1. To work toward improving rural health conditions.

2. To cooperate with the State Board of Health, ascertaining its plans for the state and for each county, and following these plans after they had first been approved by the respective medical societies.

3. To continue study programs in the auxiliaries.

4. To push the extension of Hygeia, trying to double the number of subscriptions.

The reports of the chairmen will show how much has been accomplished along the above lines.

The Chairman of Organization met Mrs. Overholser and me in Sedalia in February to interest the Pettis County

women in organizing an auxiliary and to make with them preliminary plans for this meeting. I cannot praise enough the faithful, loyal, loving cooperation of these chairmen who have made possible such success as has been accomplished during the year just closing.

It has been necessary twice during the year to take advantage of our prerogative and transact business with the Executive Board by mail. In both these cases responses were very prompt. The first of these cases was when the State Board of Health requested that the Women's Auxiliary be one of fourteen organizations to give \$5 each toward prizes for the State Health Poster Contest. Nineteen affirmative notes were received, the \$5 was remitted by the treasurer and last week I was asked to appoint a judge from the Auxiliary to assist in judging these posters. Dr. Blanche Hopkins, Jefferson City, is the appointee.

The second vote taken by mail was concerning a request made by the committee arranging for the Conference on Parental Education to be held in Kansas City the first week in March, that the name of the Women's Auxiliary to the Missouri State Medical Association be placed on their stationery as one of the co-sponsors of this Conference. This vote also was affirmative.

Other members of the Board have assisted in a most cooperative way. The Auxiliary was invited to have a speaker on the program at the annual meeting of the State Tuberculosis Society in Jefferson City last fall to explain the work of the Auxiliary. This duty was delegated to Mrs. Hoxie who did it in her efficient and admirable manner. Your President was invited to be present at the meeting of the State May Day Child Health Day Committee on February 5 in Jefferson City to make plans for the coming year. Since Mrs. Hoxie was to be present representing the Federation, I asked her to represent the Auxiliary at this meeting. I shall not go into detail concerning these plans as they will be given on our program by Dr. Krause this afternoon. Dr. Krause asked that either Mrs. Bickford or I act as permanent representative of the Auxiliary on this committee. Mrs. Bickford felt that other duties prevented her from accepting the appointment and I have been serving in that capacity.

We were also invited to attend both organization meetings of the Missouri Society for Crippled Children in St. Louis; the first on February 18, the second on April 15. Mrs. Willard Bartlett was the representative appointed for both these meetings and will report later.

To correlate the work of the Federation and the Auxiliary, as local chairman of the Public Welfare department of the St. Joseph Federation of Women's Clubs, I sponsored a luncheon meeting at which Daddy Allen, the President of the International Society for Crippled Children, and Dr. Frank D. Dickson, an orthopedist of Kansas City, presented plans for the care of crippled children in Missouri.

As Director of Health in the Missouri Branch of the National Congress of Parents and Teachers I am trying with the assistance of two of my chairmen, Dr. Blanche Hopkins, Chairman of Child Hygiene, and Dr. Henry S. Curtis, Chairman of Physical Education, to bring about a closer cooperation between that body and our own. At their state board meeting in Columbia, February 1 and 2, I presented the plan of the State Board of Health for establishing county health units. This plan was endorsed by the Board and we have been authorized to get it before the Parent-Teacher Councils and individual members through the columns of the State Bulletin and in any other practicable way. I asked Dr. Mountin of the State Board of Health to prepare an article on the county health unit which appeared in the last issue of the Parent Teacher Bulletin. Other plans of the State Board of Health and plans of the Physical Education Department of the State Department of Education have been presented by Dr. Hopkins and Dr. Curtis or myself to the readers of the Bulletin. It is great good fortune to have as leaders in the Parent Teacher organization women such as Mrs. W. A. Masters, Mrs. M. S. Gray, Dr. Blanche Hopkins and others so fully in sympathy with the teachings of scientific medicine, and is an opportune time for close cooperation.

It is significant also that two of our own State Board members are also on the board of the State Federation, and one on the national board. I mention this because I believe that the greatest field for the auxiliaries is the use of strategic positions such as I have just mentioned to get the program of scientific medicine and disease prevention used as the health programs of these organizations. To this end it behooves us to be most tactful in our cooperation both with the ones whose cooperation we desire in getting the programs presented.

In discussing the functions of the Women's Auxiliary at the Annual Conference of Secretaries of State Medical Associations in Chicago Nov. 19-20, Dr. Fishbein said the following:

"Many of the women's organizations have been of great service to Hygeia in building its circulation, in getting it in-

roduced into the schools and in bringing it into contact with the local press so that material from Hygeia is more widely circulated. Other women's auxiliaries have constituted themselves into smaller committees which got on the programs of all of the women's clubs in their communities and saw to it that the women's clubs were not used by promoters of schemes of economic or medical quackery for their particular purposes. A few intelligent members of a medical women's auxiliary on the program committee of a federation of women's clubs can stop a lot of foolish discussion (about the Sheppard-Towner Bill) can stop the representatives of Bernar McFadden, of Harter's Defensive Diet League, and of a lot of other things from getting on the programs of the women's clubs and preaching to them the peculiar doctrines that are against the best interests of medicine and of the public. For the present, those I consider personally to be the main functions of a women's auxiliary."

Your President has also acted as National Chairman of Hygeia and the report of this work will supplement the report of Mrs. Long, the State Chairman, to be given later.

In October I visited the Clay County Auxiliary at its regular meeting held at Excelsior Springs and presented the plans of the Auxiliary for this administration. In October, in company with the Corresponding Secretary, and the president and vice president of the Buchanan County Auxiliary. I attended a meeting of the Holt County physicians' wives at the home of Mrs. F. E. Hogan, Mound City, when the Holt County Auxiliary was organized. March 4 I went to Kansas City and spoke before the Jackson County Auxiliary about our plans for Hygeia and on the evening of March 22 was invited to speak before the Jackson County Medical Society on "Why the Doctor Should Be Interested in Hygeia."

The correspondence of my office has been very heavy this year. I have been in close touch with all organized county auxiliaries during the year, keeping them informed concerning all plans for the work. A conservative estimate of the number of pieces of mail passing out from my desk would be at least 2000. The Corresponding Secretary, Mrs. H. S. Conrad, has assisted me faithfully in all work which I could delegate to her, but much of the correspondence has been so individual that personal letters had to be written, and the arrangement I had made with student typists made my own personal dictation imperative. Several hundred of the letters were written in long hand. I feel rewarded for the work of this correspondence by a strengthening of the organization.

The work of editor has also been carried by me. It is most difficult for any person not in close touch by correspondence with the counties to edit the Auxiliary Department of THE JOURNAL. County presidents are busy and cannot take time to write reports to all the departments. Therefore, although it is difficult, I believe that a person in close touch with the work should be editor. When the Auxiliary Column is "lean" you should understand that county presidents have failed to send reports as requested or that lack of space has prevented the editor of THE JOURNAL from using the material. This department should be an incentive to county auxiliaries not only to do good work, but to report it. Every piece of good work done and reported by an auxiliary is an example and an incentive to other auxiliaries.

In closing, I shall say that letters from the Chairman of the Bureau of Health and Public Instruction of the American Medical Association, both to Mrs. Bickford and to me, indicate that the work of the Auxiliary to the Missouri State Medical Association is approved by that body. We believe that this approval has been secured by our inquiring of them what they would have us do, and then attempting to carry out their suggestions because theretofore in Missouri the time has not seemed ripe for proposing it. That is, the suggestion that physicians, their wives and families set a good example to the laity to whom all the health organizations are preaching concerning periodic health examinations, by having annual health examinations ourselves. Light is thrown on this subject by an address given by Dr. Schauffler and discussions at the Annual Conference of Secretaries of State Medical Associations in Chicago, Nov. 19-20. The address and discussions are reported in the April, 1927, Bulletin of the American Medical Association and will repay reading by those interested in planning health programs.

We shall be glad when the time seems opportune in Missouri to incorporate this plan in our own program.

I want to take this opportunity of thanking all my faithful officers, and chairmen and auxiliary members for helping me to carry on the work of the Auxiliary this year.

This Annual Meeting is a climax to the year's work. To those speakers who have given and are giving of their time and energy for our pleasure and our instruction, we owe a debt of gratitude. To the committees of the Auxiliary who have served so faithfully to make this meeting a success, I owe more than I can ever repay.

To the pastor of this church and his board we are deeply grateful for the use of the whole church for our meetings and to the ladies for serving our luncheons.

And to the gracious doctors' wives of Sedalia, for their committees who have served in every minutest detail to make our meeting a success and to make us happy and comfortable, for the musicale, the drive and the tea, for their charming hospitality expressed in all possible ways we acknowledge a debt of gratitude, and extend a vote of thanks.

And may I predict that the coming year, under the leadership of our efficient Mrs. Bickford, will be still a better year than the one now passing.

Respectfully submitted,

Mrs. A. B. McGLOTHLAN, President.

REPORT OF THE CORRESPONDING SECRETARY

At the last meeting of the Women's Auxiliary to the Missouri State Medical Association, it was agreed upon that the chairmen of the standing committees take care of their own correspondence, so that has lessened the work of the Corresponding Secretary to a large extent.

Most of the correspondence pertained to the collecting of the dues and names for the national secretary.

There were seventy-seven letters written and sent out during the year.

Mrs. H. S. CONRAD, Corresponding Secretary.

TREASURER'S REPORT

Receipts

State Dues paid in	\$308.00
Balance on hand May 14, 1926	267.55
Total	\$575.55

Disbursements

1926	
Aug. 11, To Dr. James Stewart State Board Health Work	\$ 5.00
Mrs. G. E. Bellows, office expense.....	3.85
Mrs. A. B. McGlothlan, President.....	9.15
Sept. 29, Mrs. A. B. McGlothlan, stationery.....	42.75
Oct. 22, Mrs. D. S. Long, Hygeia letters.....	14.50
1927	
April 7, Mrs. Allen Bunce, National Dues.....	143.25
April 8, Mrs. H. Durst, Women's Federation Club Dues	5.00
April 29, Mrs. Allen Bunce, National Dues.....	8.75
May 2, Mrs. Allen Bunce, National Dues.....	2.00
May 26, State President, office expense.....	25.00
Mrs. D. S. Long, Hygeia Expense.....	3.18
Mrs. J. G. Montgomery, office expense.....	21.98
Mrs. A. B. McGlothlan, typing.....	6.00
Total	\$290.41
Balance on hand, May 2, 1927.....	285.14
	\$575.55

Number of Counties paid for 1927.....	23
Total number of members.....	613

Respectfully submitted,

Mrs. C. T. RYLAND, Treasurer.

The report and recommendations of the Chairman of Organization were read by the Secretary in the absence of Mrs. Bartlett and follows:

REPORT OF THE CHAIRMAN OF ORGANIZATION

The Women's Auxiliary to the Missouri State Medical Association is now completing its third year, having been formally organized during the meeting of the A. M. A. in Chicago in 1924. We indeed owe a debt to our three presidents, Mrs. George H. Hoxie, Kansas City, Mrs. M. P. Overholser, Harrisonville, and Mrs. A. B. McGlothlan, St. Joseph, each of whom has given without stint, outstanding ability and sustained effort and has gained love and loyalty of their boards and the whole Auxiliary.

One must be in close touch to fully grasp the amount of work that this office has required and to realize the enthusiasm and devotion that has gone into it. Two new counties have organized this year, Holt at Mound City and Bates at Butler. Cole County at Jefferson City has reorganized under Mrs. S. P. Howard. This makes a total of twenty eight active auxiliaries in the state. You will recall that more than twice that number were formally reported during the last three years in which women have been appointed by the president of the county medical society to form an auxiliary. We feel sure that many of these are not functioning. It is but a question of time until the auxiliary idea will spread and possess them as it does the active twenty eight.

The Chairman of Organization has taken only two trips

into the state this year, one to Sedalia in the spring and one to Jefferson City recently.

The Auxiliary is a member of the Federated Clubs. Its activities and other contacts I leave for the President's report.

The above briefly states one kind of progress but the real growth, that of the spirit which is the law behind all Auxiliary activity, can be quite as definitely measured by all who are fortunate enough to drop in to the frequent gatherings of two or three hundred women, sometimes both men and women, such as have developed during the past year in St. Louis, Kansas City, St. Joseph, and other centers in proportion.

It is very noticeable that we have found the common meeting ground, particularly for the younger members and their wives to come together. The happy results for the profession at large can be easily foreseen.

We have written to Dr. Olin West, Secretary of the A. M. A., and take the liberty of quoting his response.

Dr. West writes: "I have done all I could to promote the Women's Auxiliary especially in the individual states, and it will be my pleasure to give all the help I can in the future. My observation has been that some have done splendid work and in a few instances, the county organizations have been very effective. Some of them have done telling work for Hygeia; others have rendered very valuable assistance in seeing to it that women's clubs have had the right sort of health programs, and have been protected against frauds of various kinds; others have served to make opportunity for more helpful contacts of physicians with one another. I have the impression that in the states in which the auxiliaries have been most active, they are constantly gaining ground. I should dislike very much to see anything transpire that would interfere with the further development of the Women's Auxiliary."

As to the matter of promoting organization, we feel that from now on the most effective way possible to increase the number of county auxiliaries is for every man and woman who is convinced that the idea has proved its value and is no longer an experiment to give an outspoken indorsement and pass the work along to friends in the profession at home and in neighboring counties. Let every woman become an active messenger and definite part of the Organization Committee; and may we respectfully request that each member of the Missouri State Medical Association will encourage his women folk to become members of their local auxiliary or volunteer to organize it.

MRS. WILLARD BARTLETT,
Chairman of Organization.

The recommendations made by Mrs. Bartlett and approved by the Executive Board at its Tuesday morning session were accepted and referred to the Committee on Resolutions:

1. That county presidents be asked to assist the Chairman of Organization to organize counties adjacent to their own.
2. That presidents of county auxiliaries, by virtue of their office, be made members of the State Executive Board.
3. That an amendment committee be appointed by the President to present an amendment providing that the ex-presidents, upon retiring from the presidency, shall automatically become permanent members of the Executive Board.

REPORT OF CHAIRMAN OF EDUCATION

In sending out suggestions for programs I have asked each county president to bear in mind the fact that we are an Auxiliary to the Missouri State Medical Association, and as her first step to secure the approval of the county medical society before adopting the state programs.

The first general letter addressed to the county presidents went out in August. This letter contained recommendations from the Annual Meeting in St. Louis, suggesting that they carry out as far as possible the program which the State Executive Board had adopted.

1. To stress Hygeia more than ever this year so that we might double our subscriptions in Missouri for the year.
2. That each county auxiliary assist in promoting the work in physical education in our rural schools and giving an outline of the aims of the State Department of Physical Education.
3. To attempt to have either an auxiliary member or an interested friend a member of the program committee of each Parent Teachers Association in the county.
4. To write letters to each of the following: State Board of Health, County Superintendent of Schools and County

Health Physician, inquiring of them the greatest health needs in their counties and in what way could they as an auxiliary assist in helping to solve these problems, and requesting each of them to send me the answer so I might know what were the general health needs of the state and thereby formulate an appropriate state program. The replies indicated that the health needs were so great and of such a varied nature that a program to meet all such needs was impossible.

The last week in August I sent letters to all county presidents and chairmen of education telling them the Seymour Plan for Disease Prevention had been adopted for the state education program for the next six months, suggesting that drives be put on, and explaining the plan. September and October were to be devoted to educating the public concerning the nature and the prevention of diphtheria; November and December the same with smallpox; January and February concentrating on typhoid. To ask all women's organizations, Red Cross, Tuberculosis Association, Parent Teachers associations, and the clergy to help us in stamping out these much dreaded diseases. Accompanying this letter was bibliography for both literature and films along with pamphlets on each disease. Cape Girardeau, Buchanan, Saline and Lafayette counties have reported as having adopted a part of the plan; Gentry County was the only county to adopt the entire plan, and the City of St. Louis is now working on it.

The last of February the American Medical Association made a special request that a concrete plan be made for the State of Missouri for a Hygeia program, offering to send literature and sample copies to auxiliaries or lay organizations on subjects which had been published in Hygeia in the past two years. With this tabulated program I enclosed literature and pamphlets which were furnished by the American Medical Association, also a letter giving suggestions for their own meeting, in which to formulate plans for presenting these Hygeia programs to lay organizations, especially to Parent Teachers associations. Cass, Johnson, Jackson and Buchanan and Lafayette counties reported as having used a Hygeia program. Gentry County reported as having used a similar program in connection with the Seymour Plan.

The cooperation which the auxiliaries have given other organizations throughout the State is both inspiring and gratifying. The organizations assisted are, Parent Teachers associations, Federated Women's Clubs, Public Health Conservation Association, Society for Crippled Children, Girl Scouts, Tuberculosis Association, Red Cross, Salvation Army, Cancer Association, Mental Hygiene Association, Rural Clubs and Chamber of Commerce; in addition to this Butler County placed Hygeia in the Poplar Bluff schools. Buchanan County is putting on a May Day Child Health Day program. They have put Hygeia in all the schools in the county and are the leading county in the United States as to number of Hygeia subscriptions in the past year. They furnished our State President, our National Chairman of Hygeia and State Director of Health of the Missouri Branch, National Congress Parent Teachers association. They put on a poster contest for rural school children. They have kept in close touch with the health conditions in their schools having the Red Cross and Deputy Commissioner of Health send them copies of the work they do in the county.

Clay County had clippings from Hygeia in local papers, Cape Girardeau County put on a splendid poster contest, as did Mrs. Scott, of Laclede County, although Laclede is not organized.

Gentry County has been working to improve dairy conditions and conditions in their county jail and has put Hygeia in every rural school in the county.

Johnson County gave subscription card parties so as to place Hygeia in rural schools. These parties proved a real success.

Jackson gave financial aid to the Play Ground Association of America, and assisted the Kansas City Clinical Society in October in entertaining the visiting doctors' wives. A delightful tea was given at which Miss Carrol Keller gave a most interesting talk on doctors' wives and auxiliary work.

Through the efforts of the Saline County members the Marshall Chamber of Commerce sponsored a Child Health Conference at the fall festival including all children of Saline County. The State Board of Health sent Dr. Irl Krause and Miss Pearl McIver, of the Division of Child Hygiene, to do the examining.

The City of St. Louis Auxiliary had an information booth at the St. Louis Exposition. They assisted the Cancer Association by having members attend to the registration at the free cancer clinic and distributing literature, about thirty women taking an active part. They served a luncheon to 126 delegates for the members of Bureau of Vital Statistics, and are now completing arrangements for placing from 75 to 100 Hygeia subscriptions in their schools.

Buchanan, Cape Girardeau, Clay, Lafayette, Jackson and the St. Louis City auxiliaries had public health talks given either to their own members to which the public was invited, or before other organizations.

April 1, I sent a questionnaire to each county auxiliary which I had heard from either directly or indirectly during the past year. I sent these out not only to ascertain what had been accomplished, but as valuable information for the new chairman of education. I enclosed stamped and addressed envelope. Twenty one have been returned to me out of the thirty five sent out. The questions included the correct name and address of the present president, number and nature of meetings in past year, and work accomplished. The American Medical Association has asked permission to see these returned questionnaires.

Twelve counties reported having had educational programs, nine counties had part educational and part social meetings, three counties have had no social meetings, and two counties have had only social meetings. Eleven counties reported as having all their meetings at the same time as the County Medical Society meeting.

The counties are interested in scientific programs for the coming year, in knowing of speakers on public health. The City of St. Louis is anxious to know ways of raising funds so as to assist in equipping the new medical building. I make three recommendations:

1. That each county auxiliary endeavor to have at least one Hygeia program presented at each Parent Teachers Circle during the coming year.

2. That the Seymour Plan for Disease Prevention be continued. In the counties having Health Units the Auxiliaries can carry on the program by having films on the three diseases and having the Hygeia programs on preventive diseases. In addition to the plan, adopt a slogan to the effect, "Every member of the Missouri State Medical Association child and grandchild be protected from these three diseases." It is quite ridiculous to talk prevention when our own children have not been cared for according to the latest methods of scientific medicine.

3. That we attempt to have placed an auxiliary member on each council of Girl Scouts, Girl Guides, Campfire Girls, or any other organization giving instructions to girls in first aid, home care of the sick, child nursing, etc. In this way we can be sure that these future home makers and mothers will be given training and instruction under reputable and recognized doctors and nurses.

Respectfully submitted,
FLOSS CRYSLER (Mrs. W. M.) BICKFORD,
Chairman of Education.

The recommendations of the Chairman of Education were referred to the Committee on Resolutions.

REPORT OF THE CHAIRMAN OF HYGEIA

In 1925 the Women's Auxiliary to the Missouri State Medical Association sent in 446 subscriptions to Hygeia. At the annual meeting held in St. Louis in May, 1926, it was voted to try to double the subscription list of Hygeia in Missouri. In view of the fact that there are only about twenty eight auxiliaries and that not all of these have been actively interested in Hygeia, this seemed quite an undertaking.

Your President, Chairman of Education and Chairman of Hygeia held two conferences in Kansas City during the summer months in an effort to create plans whereby this goal could be reached. We secured from Mr. Cargill, the circulating manager of Hygeia, a list of the counties in Missouri having Hygeia subscribers and the number of subscriptions from each county. Mr. Cargill also very kindly worked out a table of group subscription prices for teachers of seven, eight and nine month schools. From this list we worked out the quotas for each county, bearing in mind that more could be expected from the counties having an active organization and that we would have to depend upon them to balance the weak counties.

The first group of Hygeia letters, seventy three in all, was sent out September 20, 1926. In this letter the value of Hygeia as a means of educating the laity and the importance of the doctor's subscriptions paying the way, were stressed. The number of subscriptions in each county for last year was given, and the quota assigned for this year. Also the subscription rates were given. At the same time a copy of the letter and a list of the names to whom the letters had been sent, was sent to Mr. Cargill with the request that he send follow-up material. On January 15, 1927, a letter was received from Mr. Cargill reporting 862 Hygeia subscriptions sent in by the Women's Auxiliary to the Missouri State Medical Association at the close of business on December 31, 1926, an increase of 416 over the 446 of last year, but a lack of subscriptions to reach our goal of 892. At this time Buchanan County led with 495 subscriptions, Gentry County reported 109 and Cass County had 60.

In February, 1927, the National Chairman of Hygeia sent out a report from which the following paragraph is taken: "In comparing the county auxiliary reports, we find Buchanan County again leading with 495 subscriptions to Hygeia, Dallas County, Texas, second place with 159 sub-

scriptions, and Fulton County, Georgia, and Cass County, Missouri, tying for third place with 60 subscriptions apiece, though if the 101 five-month orders from Gentry County, Missouri, had been yearly subscriptions, this county would be entitled to third place."

At the same time your state chairman sent out another letter to the counties, seventy three in all, urging that we work to reach our quota by May, asking a report of the work done and again sending a copy to Mr. Cargill, requesting more follow-up work. These 73 letters brought nine replies as follows:

Mrs. Martin, of Gentry County, has placed Hygeia in each rural school and more in the city schools according to the attendance. They have also cooperated with the Red Cross and the Tuberculosis Society and distributed leaflets on smallpox, typhoid and diphtheria.

Mrs. E. A. Oliver, Richland, promised to try to secure subscriptions.

Mrs. McPheeters, Butler County, wrote with enthusiasm and expected to place Hygeia in each rural school.

Mrs. F. E. Hogan, Holt County, reports Hygeia in a number of rural schools and homes due to efforts of their county nurse.

Mrs. Parker, Johnson County, told of having had a serious automobile accident and of course had been unable to work at Hygeia. Their Auxiliary is now giving a series of bridge parties to raise money to place Hygeia in the rural schools next year. They also maintain subscriptions in the public library and the school libraries of Johnson County.

Buchanan County Auxiliary placed Hygeia in each rural school, the County Medical Society placed Hygeia in each city school. In addition, practically every reading room in the city of St. Joseph is supplied with a copy of Hygeia. They also secured the cooperation of the county superintendent of schools to recommend the magazine as a reference in the study and teaching of physiology and hygiene.

Cass County Auxiliary secured several teacher subscriptions, placed Hygeia in twelve rural schools and two public reading rooms. Had an exhibit at County Teacher's Convention. Secured a place for Hygeia review on the programs of two literary clubs and one Parent Teacher Association. The newspapers have used the news sheet and one county doctor gave a year's subscription to Hygeia for an attendance prize at a Kiwanis luncheon.

Jackson County Auxiliary placed Hygeia in all the rural schools and a number of city schools as well as a number of public reading rooms. Gave a year's subscription to the county health nurse. Have given several bridge parties to raise funds. Invited the state and national chairmen of Hygeia to talk to their auxiliary on Hygeia, and secured a place for the national chairman on the program of the Jackson County Medical Society at which time they sold a number of subscriptions. Mrs. M. A. Hanna, our Recording Secretary, is the enthusiastic and able chairman of Hygeia and has done splendid work. One of their members, Mrs. Ralph E. Duncan, has charge of the Hygeia booth at the meeting of the Women's Auxiliary to Missouri State Medical Association.

If I have omitted any county it is because I have failed to receive the report.

Your Chairman sent the Roster of the 54th Legislature to Mr. Cargill who then mailed a sample copy of Hygeia to the home address of each member. She also has visited three auxiliaries in the interest of Hygeia and reviewed the magazine before two literary clubs and one Parent Teacher Association.

The most recent report from Mr. Cargill gives Missouri a total of 1210 subscriptions. The number by counties follows:

Boone	11	Greene	8
Buchanan	498	Jackson	212
Butler	8	Johnson	8
Cape Girardeau	20	Lafayette	24
Cass	70	Helphs	16
Clay	32	Saline	15
Cole	14	St. Louis	1
Gentry	181	St. Louis City	91
		Schuyler	1

In the most recent report from our National Chairman of Hygeia we find the following comparison of counties: Buchanan County, Missouri, leads with 498 subscribers; Dallas County, Texas, is second with 405, and Jackson County, Missouri, is third with 213. So you see Missouri has competition and will have to increase her efforts in order to keep pace.

Information concerning rates, material for campaigns, Hygeia news sheets and helps of various sorts may be secured by writing to Mr. F. V. Cargill, 535 North Dearborn, Chicago.

I should like to present the following recommendations: 1. That county Hygeia chairmen be appointed and that their names be forwarded to the State Chairman.

2. That the auxiliaries continue their efforts to interest their own members to subscribe for and read Hygeia.

3. The Auxiliary attempt to have discussions of the use of Hygeia on the program of the County Teacher's meeting to present the merits of Hygeia in its endeavor to connect the knowledge of the medical profession with the teaching profession. (That an increased effort be made to place Hygeia in every school in the county.)

4. That we continue to place Hygeia in public reading rooms, hospitals, farm bureaus and among leaders of youth.

5. That the auxiliaries petition the county superintendents of schools to recommend Hygeia as a reference in the teaching of physiology and hygiene.

6. That the auxiliaries attempt to secure the cooperation of the newspapers to publish excerpts from the news sheets.

7. That each county auxiliary pledge its moral support to reach the Hygeia quotas assigned to them.

Respectfully submitted,

Mrs. DAVID S. LONG.
Chairman of Hygeia.

The recommendations of the Chairman of Hygeia were referred to the Committee on Resolutions.

At this point the report of the Chairman of Hygeia of the Women's Auxiliary to the American Medical Association was called for and read by the National Chairman, Mrs. A. B. McGlothlan. The report follows:

REPORT OF CHAIRMAN OF HYGEIA WOMEN'S AUXILIARY OF THE AMERICAN MEDICAL ASSOCIATION

As chairman for the extension of the circulation of Hygeia, my first letter was sent out to the state presidents, twenty one in all, on August 16, 1926. This letter explained that at the Dallas meeting, following a request from the American Medical Association that the Women's Auxiliary push the extension of Hygeia, the delegates voted to ask the organized states to attempt to double the number of subscriptions in their respective states during the next Auxiliary year. Although for some of the states this task was an ambitious undertaking, the presidents were urged to attempt it. In this first letter your chairman requested that state and county Hygeia chairmen be appointed and that names be sent to the national chairman. Only two or three states responded to this request.

Very generous group rates were secured from Mr. Cargill and a second letter was sent to all states in October, the number then being twenty-four, urging the placing of Hygeia in the hands of teachers and mothers and other leaders of youth, as well as putting it into the reading rooms and all public places, such as public libraries, Y. M. C. A., Y. W. C. A., Y. M. H. A., Knights of Columbus, Boy Scouts, Girl Scouts, club houses, hospitals, etc.

Details of the Buchanan County, Missouri, plan were given for placing Hygeia in all its rural schools and securing the cooperation of the county superintendent of schools to recommend the magazine as a reference in the study of physiology and hygiene. The group rates given by Mr. Cargill were quoted and each state urged to secure for him the number of subscribers for the preceding auxiliary year, and to work toward doubling that number before May 1, 1927. More responses came to the second letter indicating that several of the state presidents would present the challenge to their county presidents and request them to accept it.

The report from the circulation manager sent out at the close of business on December 31, 1926, showed that Auxiliaries in only nine of the states had sent in any subscriptions in 1926, but that the few that had been working had succeeded in multiplying by three and one half times the number secured by Auxiliaries in 1925.

A third letter was sent out by your chairman giving in detail the December report of Mr. Cargill, which showed that effort and interest will bring results. Several replies came to this third letter and keener interest seemed to have been awakened. Mr. Cargill then began sending me detailed monthly reports and it was with delight that I watched totals piling up in some of the states and counties, especially in Texas and Pennsylvania. Frequent inquiries concerning rates and plans began coming in.

In April a fourth letter was sent requesting reports from the states as to their total number of subscribers since May, 1926, and their successful plans for interesting folks in Hygeia. Since this report had to be in the hands of the corresponding secretary the last week in April, the date of April 20 was set as the date for sending the number of subscriptions. Eleven states responded, namely: Kansas, New Jersey, Florida, Virginia, Mississippi, Kentucky, Oklahoma, West Virginia, Colorado, District of Columbia, Arkansas, but their plans were not reported.

The following is the report of the circulation of Hygeia sent out at the close of business, April 20, 1927:

State	1926	1927 (Jan. 1 to Apr. 20)	Total
Arkansas	0	18	18
Colorado	0	8	8
District of Columbia	1	1	2
Florida	0	3	3
Georgia	75	40	115
Illinois	5	0	5
Kentucky	0	30	30
Minnesota	198	4	202
Mississippi	18	0	18
Missouri	862	127	989
Nebraska	0	15	15
New Jersey	0	21	21
Pennsylvania	162	383	545
Tennessee	3	0	3
Texas	340	372	712
Virginia	14	7	21
West Virginia	0	3	3
Total	1678	1032	2710

Briefly analyzing these figures, it will be seen that whereas, on December 31, 1926, nine states reported subscribers, on April 20, 1927, seventeen were reporting, and that the total for 1926 was 1678, while for the first three months and twenty days of 1927, the total was 1032. Please note that these are subscriptions sent in by auxiliaries and not the total number from all sources for the states.

By counties the rank is as follows: Buchanan County, Missouri, leads with 498 subscribers; Dallas County, Texas, is second with 405; and Allegheny County, Pennsylvania, is third with 177.

Buchanan County, Missouri, used the plan of placing Hygeia in the hands of teachers, 106 having been sent to rural teachers by the Auxiliary, and 310 to city teachers by the Buchanan County Medical Society. In addition, practically every public reading room in the city of St. Joseph is supplied with a copy of Hygeia.

Dallas County, Texas, secured 168 subscriptions by means of a Game Tournament, the explanation of which I shall leave to the Texas President.

Beaver County, Pennsylvania, used a unique method of securing subscriptions which I shall leave to the President of that state to explain.

We have succeeded since May, 1924, in almost multiplying by six the number of subscribers secured by auxiliaries, but we have failed in every state to double the total number of subscribers. I have seen so many auxiliary promises unfulfilled and so many hopes blasted that I hesitate to venture a prediction, but with the state auxiliaries totaling more than 250 subscriptions for each month, and with seventeen states now functioning in place of nine in December, 1926, surely we must show better results in 1927 than we did in 1926.

State presidents and Hygeia chairmen can secure campaign suggestions and plans from Mr. F. V. Cargill, 535 Dearborn St., Chicago, who acts as a clearing house for Hygeia information.

This report under date of April 21, will be supplemented by the state presidents reporting, and later data from Mr. Cargill will probably be given. It is possible that the rank held by Buchanan County, Missouri, and Dallas County, Texas, could be changed by May 15.

Mrs. Southgate Leigh reported that the State of Virginia has a total of 273 subscriptions, Norfolk County being the banner county with 98 subscriptions. Mr. Cargill's report shows that only twenty one of these subscriptions have been secured by the auxiliaries of the state.

I should like to emphasize the following recommendations:

1. That state and county Hygeia chairmen be appointed and that their names be forwarded to the national chairman. This plan was suggested by Mr. Cargill who believes it to be an efficient method of procedure.

2. That the auxiliaries continue their efforts to interest teachers to read Hygeia themselves and to use it in their school work. The interest of the teachers can be increased if Hygeia is recommended by the state superintendent and county superintendents of schools. Therefore, it is essential that these officials be acquainted with the value of Hygeia.

3. That other leaders of youth, in Boy Scouts, Girl Scouts, Campfire Girls, Girl Reserves, and kindred organizations, be solicited to subscribe to Hygeia. If they "do not see the light" no saner expenditure of money could be made than to have subscriptions sent to these leaders by the auxiliaries themselves.

4. That we should make it our business to put Hygeia into the library of every secondary school, college, and university in our respective states. Our State President reported that a certain library had removed Hygeia from its

public reading shelves because some subjects were too frankly discussed. It would be interesting to review the sex fiction files of that same library.

5. That we attempt to place Hygeia in the reading rooms of all public places.

6. That we continue attempting to interest all doctors to become subscribers to Hygeia. Many physicians who do not read Hygeia have as yet no idea how much Hygeia contributes to the cause of scientific medicine, to what extent it exposes quackery and the isms and tells in language easily understood how all the great discoveries in preventive and curative medicine have been made by men of scientific medicine. I recommend that women of the auxiliaries familiarize themselves with the reasons why doctors should be interested in Hygeia and if possible present these reasons to them. Many doctors do not subscribe because they are busy and do not know the value of Hygeia to the profession.

The above report and recommendations indicate that there are great waste spaces almost wholly untouched by us who have attempted this method of health cultivation, and that all we need for success is interest and energy and pluck and perseverance, coupled with another rare quality called ingenuity.

Respectfully submitted,
MRS. A. B. MCGLOTHLIN,
Chairman of Hygeia.

The final report from the circulation manager, ending April 30, 1927, shows that 1399 subscriptions were secured by auxiliaries since January 1, 1927, as against 1678 for all of 1926. The total number of subscriptions from January 1, 1926, to April 30, 1927, was 3077. The counties ranked:

Buchanan County, Missouri, ended first with 498
Dallas County, Texas, ended second with..... 406
Jackson County, Missouri, ended third with.... 212
Gentry County, Missouri, ended fourth with.... 181
Allegheny County, Pennsylvania, ended fifth
with 180

The final rank of the states was:

Missouri1210
Texas 790
Pennsylvania 576

REPORT OF CHAIRMAN OF LEGISLATION

Our Auxiliary year 1926-1927, now closing, began with Mrs. George F. Bellows, Kansas City, as Chairman of Legislation. Having held this chairmanship with pronounced efficiency under the two previous presidents, it was hoped Mrs. Bellows would continue in this position. But during the summer of last year Mrs. Bellows felt compelled on account of illness in her family to relinquish the work. It was with regret and with sincere appreciation of Mrs. Bellows' services that the President accepted her resignation. The present incumbent was then appointed.

At the annual meeting a year ago there was passed a resolution to support the physical education program of the State Department of Education. The features of that program appealing directly to this Auxiliary were: To have all school children undergo a physical examination by a competent physician; to have medical inspection of schools; to make the employment of a school nurse increasingly prevalent; to provide milk for the undernourished school child.

A request, approved by Dr. Herman E. Pearse, Chairman of Health and Public Instruction of the State Medical Association, was sent all county auxiliary presidents asking that the influence of auxiliary members be used with their representatives to have the legislature assist the Department of Education in carrying this program into effect.

During the campaign of last summer the women of the county auxiliaries were advised to express themselves tactfully to candidates as desiring to vote for such candidates as favored and would support sane, progressive, and up-to-date health legislation, and also to vote for adequate appropriation for the State Board of Health.

It is also to be noted that such worth while measures were enacted as amendments to the medical practice act, the act for care of crippled children, and the act providing for the survey of the state for crippled children looking to the selection of an institution for their care, and for vocational training. Also that appropriations for the work of the State Board of Health were among the most generous appropriations made by the legislature.

We desire again to call attention to the law in Missouri providing that on application of 250 tax payers and the approval of the State Board of Health, a county court shall employ a county health nurse.

The legislative committee is entirely under the supervision of the Committee of Health and Public Instruction of the

State Medical Association.

Dr. Fishbein in the report of his interviews with various state medical associations, states that he had been asked to have Women's Auxiliaries refrain from activities in legislative matters; so while we should inform ourselves regarding health legislation, existing and proposed, and should personally use our influence to secure what is desirable and eliminate the objectionable, and be prepared to act at the request of the State Medical Association, yet we realize that from the county medical societies to the American Medical Association, the medical profession, in regard to matters pertaining to legislation affecting the profession, desires the activities of the Women's Auxiliaries to be of an unostentatious character.

Respectfully submitted,
MRS. M. P. OVERHOLSER,
Chairman of Legislation.

Mrs. G. H. Hoxie gave a report of the annual State Tuberculosis Association meeting in Jefferson City at which she represented the Auxiliary and spoke on the functions of the Women's Auxiliary. The President reported that the executive secretary of the State Tuberculosis Association had written her that county societies had been notified that the use of proceeds of Christmas Seal sales for the placing of Hygeia in rural schools was legitimate. The recommendation of the Executive Board, that county auxiliaries be asked to assist in every possible way in the Seal sales in their respective counties was referred to the Committee on Resolutions.

Mrs. Hoxie, who also represented the President on the May Day Child Health Day Committee which met in Jefferson City, February 5, gave a report of this meeting and the plans of the committee for the state. The recommendation of the Executive Board that the county auxiliaries be urged to cooperate with the State Health Department in the formation of county committees and assist in every possible way in carrying on the May Day Child Health Day work was referred to the Committee on Resolutions.

Mrs. Bartlett's report of the organization meetings for the Missouri Society for the Care of Crippled Children, and her recommendation that county auxiliaries cooperate in every feasible way in the organization of the county societies, brought on an interesting discussion. Mrs. Guy Noyes, Columbia, explained the bill passed by the recent legislature, providing for the hospitalization of crippled children at Columbia, Mo. Mrs. Bartlett's recommendation was referred to the Committee on Resolutions. Mr. Henry S. Curtis arrived at this juncture and asked that the incoming president be instructed to appoint a member of the Auxiliary to serve on the board of the Missouri Society for Crippled Children. Mrs. Overholser moved, Mrs. Schaufler seconded, that the incoming president be so instructed. Motion carried.

The recommendation of the Executive Board that the incoming president be authorized to appoint members of the Auxiliary to a conference on state and county parks was referred to the Committee on Resolutions.

The report of the Credentials Committee was given by the Chairman, Mrs. Harry F. Parker:

REPORT OF CREDENTIALS COMMITTEE SEDALIA—1927

Total number registered.....	63
Number of organized counties represented.....	14
Number of unorganized counties represented.....	4
Number of county presidents registered.....	8
Number of county vice presidents registered.....	3
Number of accredited delegates registered.....	13
Number of guests registered.....	30
Number of state officers and directors registered.....	12
Total number entitled to vote.....	36

MRS. HARRY F. PARKER, Chairman,
MRS. T. J. DRAPER,
MRS. WM. R. PATTERSON.

The Nominating Committee submitted the following report:

Officers

President-Elect, Mrs. Willard Bartlett, St. Louis.
1st Vice President, Mrs. A. W. McAlester, Kansas City.
2d Vice President, Mrs. W. T. Martin, Albany.
3d Vice President, Mrs. T. O. Klingner, Springfield.
4th Vice President, Mrs. M. P. Ravenel, Columbia.
Recording Secretary, Mrs. M. A. Hanna, Kansas City.
Corresponding Secretary, Mrs. L. C. James, Blackburn.
Treasurer, Mrs. T. J. Draper, Warrensburg.

Directors for Two Years

Mrs. A. B. McGlothlan, St. Joseph.
Mrs. D. S. Long, Harrisonville.
Mrs. Geo. H. Hoxie, Kansas City.
Mrs. Frank Hinchey, St. Louis.
Mrs. C. T. Ryland, Lexington.

Directors for One Year

Mrs. M. P. Overholser, Harrisonville.
Mrs. H. F. Parker, Warrensburg.
Mrs. R. W. Berrey, Mexico.
Mrs. W. F. O'Malley, Webster Groves.
Respectfully submitted,
COMMITTEE ON NOMINATIONS,
MRS. M. P. OVERHOLSER, Chairman.

The report of the Nominating Committee was received. Nominations from the floor were called for. There being no other nominations, Mrs. Overholser moved, Mrs. Suddarth seconded, that the nominating ballot be made the elective ballot and that the Secretary be instructed to cast the ballot for the officers as presented by the Nominating Committee. The motion carried. The Secretary cast the ballot and the officers were declared elected.

REPORT OF THE COMMITTEE ON RESOLUTIONS

The Resolutions Committee submitted the following resolutions which were adopted:

That since the recommendations of the Chairman of Organization have met with the approval of the Auxiliary, we refer to the Committee on Amendments to the Constitution, to be presented at the next Annual Meeting, the following:

1. Presidents of the county auxiliaries shall, by virtue of their office, be members of the State Executive Board, and that this committee consider creating an executive council consisting of the president, president-elect, vice presidents, secretaries and treasurer, to transact the business of the Auxiliary between the meetings of the General Board.

2. (a) That each county auxiliary endeavor to have at least one Hygeia program at each Parent Teacher Circle during the coming year. (b) That the Seymour Plan for disease prevention be continued and that we use our influence to persuade physicians' families to be immunized from diphtheria and vaccinated against smallpox. (c) That we attempt to have an auxiliary member placed on each council of Girl Scouts, Girl Guides, Campfire Girls, Child Nurse or any other organization giving instruction in first aid, home care of the sick, etc.

3. (a) That county Hygeia chairmen be appointed and that their names be forwarded to the State Chairman. (b) That the auxiliaries continue their efforts to interest their own members to subscribe for and to read Hygeia. (c) That the auxiliaries attempt to have a discussion of the value of Hygeia to school health work on one program at county teachers' meetings. (d) That Hygeia continue to be placed in public reading rooms. (e) That the auxiliaries petition county superintendents of schools to recommend Hygeia as a reference in the teaching of physiology and hygiene. (f) That the auxiliaries attempt to secure the co-operation of the newspapers in publishing excerpts from the news sheets of Hygeia. (g) That each county auxiliary pledge its moral support to reach the Hygeia quota assigned to it.

4. That the state and county auxiliaries cooperate with the Missouri Society for Crippled Children in their work for the crippled child.

5. That the county auxiliaries be urged to cooperate with the State Board of Health in the formation of the County May Day Committees and assist in every possible way in carrying on the County May Day work.

6. That since the State Tuberculosis Society has voted that the use of receipts from the sales of Christmas Seals may be used by county societies to place Hygeia in the

rural schools the county auxiliaries be encouraged to assist in every way in the sale of the Red Cross Christmas Seals.

7. That the incoming president be authorized to appoint a representative to a conference on state and county parks.

8. That we express our thanks and sincere appreciation to the retiring president, Mrs. A. B. McGlothlan, and the retiring officers for their splendid work during the past year.

9. That the Auxiliary express its deep appreciation to the women of Sedalia for their warm hospitality and gracious entertainment.

MRS. A. W. McALESTER, Kansas City, Chairman.
MRS. FRANK HINCHEY, St. Louis.
MRS. M. P. RAVENEL, Columbia.

On motion adjourned.

Luncheon Meeting

The state and county officers, delegates and guests repaired to the large church dining room where luncheon was served. This was an open meeting, Mrs. A. B. McGlothlan presiding, and was attended by members of the Federation of Women's Clubs, Parent-Teacher Circles and doctors, as well as by members of the Auxiliary.

The invocation was pronounced by the Reverend Mr. J. W. Koontz, Pastor of the church. Dr. C. A. Good, of St. Joseph, presented the Seymour Plan for Disease Prevention, giving in a most interesting way the means of prevention of the three communicable diseases, diphtheria, typhoid fever, and smallpox, and showing by means of charts what progress has been made in cities where active campaigns have been put on to prevent these diseases. A vote of thanks was extended to Dr. Good for this excellent paper, and the women of the auxiliaries were told that this paper was an illustration of the kind of health education that the Auxiliary is asking the auxiliaries to bring before lay audiences.

Dr. P. D. Gum, of West Plains, brought a message from the State Medical Association in session in the Court House, expressing appreciation of the work of the Auxiliary in extending the circulation of Hygeia, and pledging their support and cooperation. The women of the auxiliaries were very much pleased and encouraged by this report. Dr. Gum stated that the Tuberculosis Society in his county had placed Hygeia in all the rural schools of the county.

INSTALLATION OF PRESIDENT

Mrs. W. M. Bickford, the incoming President, was presented and made a brief address which follows:

"I want to thank last year's Nominating Committee for the honor which they bestowed upon me, and this year's nominating committee for the splendid officers and Board of Directors they have given me to work with.

Imagine with me for a few minutes that our wonderful state is one large tract of land, all virgin soil. Mrs. Bartlett, our efficient Chairman of Organization, took this virgin soil and laid it out into fields which we will call counties. Then Mrs. Hoxie, our first President, broke the soil, and she did it thoroughly. Mrs. Overholser then harrowed and smoothed it and gave it to Mrs. McGlothlan in excellent condition for planting. Mrs. McGlothlan has planted the fields as I feel no one else could have done, and she is turning over to me twenty-eight beautiful fields with 628 tender and precious young plants to care for, and I am asking each one of you to help me care for these fields and keep them flourishing and also to prepare and plant new fields."

REPORTS OF COUNTY PRESIDENTS

Audrain County

Aside from the members giving their full moral support to the many activities of the auxiliary they united with the

public health committee of the Mexico Women's Club and put on a very creditable public health demonstration and reception, which was attended by the full faculty and pupils of the Mexico High School, some few from the grades, the M. M. A. and Hardin College. Dr. Stewart was to have been our speaker and guest of honor at the reception but unfortunately he was stuck in the mud between Jefferson City and here, so we had to fill in his hour with local talent. There were fully two hundred fifty people at that meeting. There were many good talks along health lines.

Our next and perhaps our best piece of work was to secure from the Parent Teachers Association a promise of their cooperation when an opportunity presented itself, to put on an entertainment by which we hope to secure funds to enable us to place Hygeia in the hands of every teacher in this county. We hope to be able to begin the subscriptions September 1.

MARY A. (MRS. R. W.) BERREY.

Bates County

Has just organized. It is one week old and has nine members. All have paid their dues.

MRS. R. N. CHASTAIN.

Boone County

The Auxiliary has had eight meetings since August. These meetings have been held in the afternoon at the homes of the members. At several meetings a book review was given by one of the members. Three of our meetings have included educational programs and all of the meetings ended with a tea. There are seventeen members, an increase of two members since last year. Some of our members live in adjacent towns.

Through the Chairman of the Hygeia Committee ten annual subscriptions to Hygeia were sent in. Some of these were given to the rural schools in the county by the Auxiliary. The Auxiliary will at all times cooperate with the County Health Unit which is doing such good work in Boone County.

MRS. M. P. RAVENELL.

Buchanan County

The chief project of the Auxiliary was the placing of Hygeia in the schools. One hundred six subscriptions were paid for by the Auxiliary and sent to the rural teachers; 310 were paid for by the Buchanan County Medical Society and sent to city teachers and public reading rooms.

The county superintendent of schools invited the Hygeia Chairman to speak at the August teachers' meeting on the "Value of Hygeia as an Aid to Teaching Health." The superintendent recommended the magazine as a reference in the teaching of physiology and hygiene. A health poster contest was conducted and prizes given by the Auxiliary. The posters were exhibited at the January teachers' meeting when a health program was given. Dr. C. A. Good talked on "The Prevention of Diphtheria" and Mr. Henry S. Curtis talked on "The Teaching of Health in the Public Schools."

Meetings were held monthly and at most of the meetings programs were given. The Seymour Plan as suggested by Mrs. Bickford was followed in part. The Hygeia program was given in March.

The Auxiliary has kept in close touch with the organized health work of the county and has furnished the State President for the Missouri Auxiliary, the National Chairman for Hygeia, the editor of the Bulletin of the Missouri Branch of Parents and Teachers, the director of Health and the Chairman of Social Hygiene of the Missouri Branch Parents and Teachers, a vice-chairman of the State Birth Registration Campaign, a member of the State May Day Child Health Day Committee, the County Chairman for May Day Health Day, and the local chairman of the Public Welfare Department of the Federation as well as officers in many local Parent Teacher circles.

We consider that perhaps our best work for the year has been in cooperation with other health agencies and organizations, a part of whose program is health.

Money for paying for subscriptions to Hygeia for rural teachers next year has been earned this year by benefit parties and at our May meeting it was voted again to send the magazine to rural teachers.

Butler County

We have placed Hygeia in all of the Poplar Bluff schools and five of the county schools for a five month period. We hope to renew all of them in the fall. The teachers reported that they enjoyed Hygeia very much. There is little to report on our educational work. Our Parent Teachers Association, Community Club, Women's Clubs, etc., are quite efficient and do very commendable work and we have employed a "hands off" policy.

We have had four meetings during the past year. At one of these meetings we entertained the members of the Medi-

cal Society at my home. I shall try to have health programs at all the Parent Teachers Association meetings as suggested.

MRS. L. B. KNECHT.

Cape Girardeau County

Our Auxiliary has had nine meetings held in the first Saturday of each month. Two of our programs were educational. Our organization has sent in twenty four subscriptions to Hygeia this year.

We have no organized health work in our county other than the city school nurse. We gave a talk before the Wednesday Club April 6 on our health work in the county and distributed literature on disease prevention. Our work this year was mostly about the rural schools. We attended community school fairs in the county and tried to get the teachers interested in our poster contest and gave out about 1500 health leaflets, weighed and measured about 600 children. The county superintendent was a great help to us. We held our health poster contest in Jackson in March and in April gave a tea in Cape Girardeau and had the posters on exhibit.

MRS. O. L. SEABAUGH.

Cass County

Have held four meetings each year and featured the June and September meetings. The meetings are always social as well as business. At the June meeting we usually have a picnic lawn supper with Doctor and Mrs. M. P. Overholser, at Harrisonville, and in September we meet at Baldwin Lake in Pleasant Hill. We always have the most interesting speakers available. This meeting is held in conjunction with the Cass County Medical Society.

Dr. Emmett P. North, St. Louis, was present and reviewed the efforts of the Missouri State Medical Association in its attempt to procure legislation to drive the diploma mills out of the state. He also expressed appreciation of the excellent work being done by the Women's Auxiliary. Dr. M. A. Hanna, Kansas City, read a paper on "Prenatal Care" in which he stressed education as the most important method of combating the ignorance and superstition that has for so many centuries been associated with the phenomenon of reproduction. Dr. G. Leonard Harrington, Kansas City, discussed psychoanalysis in its practical application to school children and every day life.

After the scientific program a picnic supper was served which we found most enjoyable.

These meetings are usually attended by other auxiliaries, sometimes Henry, Bates and Johnson counties being represented.

Our March meeting was a Hygeia meeting. We also have the May Day Child Health Day work in the schools.

We found the Metropolitan Life Picture to be prohibitive in regulations for small towns.

CHARLOTTE (MRS. A. H.) BALDWIN.

Clay County

Six meetings were held, all of them on the same day that the medical society meets. Four meetings were educational in character and two social. At one meeting an interesting discussion of food allergy was given by a physician.

This Auxiliary sold twenty nine subscriptions to Hygeia during this year. Many articles from Hygeia were discussed at the meetings and selections from Hygeia news sheets were published in the local papers.

Mrs. McGlothlin was a guest of honor at one meeting and at another we attended the district medical meeting at Excelsior Springs.

MRS. C. H. SUDARTH.

Cole County

The Women's Auxiliary of Cole County has reorganized with twelve members.

MRS. S. P. HOWARD.

Gentry County

One hundred ten subscriptions to Hygeia have been sent in by Gentry County Auxiliary; ninety one subscriptions being for our county teachers; one goes to each rural school in the county and several to our city schools as the gift of the Auxiliary, Red Cross and Tuberculosis societies. We have only eight yearly subscriptions in the county, two in King City, two in Stanberry and four in Albany.

One hundred Metropolitan health pamphlets on smallpox, diphtheria, and typhoid have been distributed over the county to clubs, schools, and individuals. Articles on these subjects have been in our papers.

We adopted the Seymour plan as suggested by Mrs. W. M. Bickford, State Education Chairman.

Birth registration was undertaken. Every registrar was written and county papers printed the list of births in their district for 1926. Stanberry prints it monthly. We secured from Jefferson City a hundred pamphlets on "Uncle Sam

and His Babies" and distributed them throughout the county.

Several members of our Auxiliary were appointed on the Advisory Committee of the Gentry County Tuberculosis Association: Mrs. McCaslin, Stanberry; Mrs. C. N. Williamson, Gentry; Mrs. W. T. Martin, Albany; and Mrs. D. Blacklock, King City.

Dues collected and sent to State Corresponding Secretary for our eighteen members.

The Auxiliary and the medical society both meet on the third Tuesday of the month. They hold separate business meetings then the doctors join with the Auxiliary and a very pleasant social hour and luncheon is enjoyed.

NATALIE CAMPBELL, President.

Greene County

We have a very efficient county health unit in which the Greene County Medical Society is represented. Dr. Williams, County Health Physician, has three county health nurses and they have done very fine work in the rural districts and schools. We also have three city doctors and two nurses, so there is really very little our Auxiliary could do. Greene County is very well taken care of. We are going to try and make the Auxiliary more of a success and meet once a month to study Hygeia.

We have a short business meeting and then have a program from Hygeia, usually three articles read and then a general discussion. We then have a social hour with refreshments.

At the time our dues were paid we had sixteen members; now we have twenty four. We are very proud of this year.

MRS. E. M. FESSENDEN.

Jackson County

The Women's Auxiliary to the Jackson County Medical Society has had a very interesting winter. After trying various types of meetings, we have found that combining business with pleasure makes the most satisfactory program with us. Our meetings are held in the homes of our members once a month. After the business meetings are over we have a speaker on a subject of interest to all, and then tea is served while we have a social hour.

We started our 1926-1927 season with a most delightful tea given early in October in conjunction with the Kansas City Clinical Society at the Kansas City Art Institute. We had the pleasure of bringing Miss Budda Carrol Keller, Director of Lay Education of the Illinois State Medical Society, to Kansas City for this meeting. Miss Keller gave a most inspiring talk on the outlook and functions of the medical society auxiliaries, making all who heard her feel the splendid opportunity and great need of our organization. A number of our state officers were also honor guests. Tea was served to 275 people.

The November meeting was held at the home of Mrs. W. Duke; it being our annual meeting, reports of committees were read, the rest of the time being given to welcoming the new officers for the year. Tea was served.

The December meeting was held at the home of Mrs. Lindsay S. Milne. After the business meeting was adjourned, we had Mrs. Norma Knight Jones give a review of Dr. Fred Pearce's book, "Child Psychology" and brief summaries of some of the new novels.

The January meeting was held at the home of Mrs. Jabez Jackson, wife of the President-Elect of the American Medical Association. Kansas City feels very proud, indeed, of Dr. Jackson and the honor he has brought Missouri. At the meeting we had a lecture on "Social Hygiene Activities," by Dr. Edith Hale Swift, New York, representative of the National Social Hygiene Association. Many interesting points were brought out and an animated discussion followed.

The February meeting was our annual benefit bridge party given to raise money for our educational program. The proceeds of the party after all expenses were paid were \$338.23. The committees in charge of arrangements worked most faithfully and deserve great credit for their success.

The March meeting was held at the home of Mrs. Charles C. Dennie. It being Hygeia Week, Mrs. M. A. Hanna, our Chairman of Education, took charge of the program and gave us several delightful surprises.

Mrs. A. B. McGlothlan, St. Joseph, our State President, gave us a most comprehensive talk on "The Reason Why," and "What They Say About Hygeia." Mrs. David S. Long talked to us about the work the state was doing with Hygeia. The rest of the program was given by our local women. The material for the papers read was all gleaned from Hygeia. Mrs. Oliver Gilliland read a paper on "The Nervous Child," Mrs. Ralph Duncan one on "Scarlet Fever," and Mrs. Robert Schaeffer one on "Posture." That meeting certainly made us all realize what worth while material could be found in Hygeia for future programs and we have decided to give at least ten minutes at each meeting for brief excerpts or summaries from the most recent issue of Hygeia.

This seems a good time to give a general report on what

Mrs. M. A. Hanna and her Committee of Education has done in Jackson County with Hygeia and Hygeia exhibits. These exhibits consist of booths attractively placed at meetings and decked with gay posters when Hygeia literature is given to interested persons.

In November, by special request, a Hygeia exhibit was held at the State Teachers Convention. Great interest was shown and requests from teachers from other counties were sent to our State Chairman.

In March, from the 2d to the 5th, a Hygeia exhibit was held at the Mid-Central Conference of Parental Education, under the auspices of the Kansas City Children's Bureau.

On March 22 the Jackson County Auxiliary was invited to meet with the Jackson County Medical Society to popularize Hygeia among the doctors. Mrs. A. B. McGlothlan, our State President, was the speaker of the evening and certainly gave the doctors food for thought, stressing the fact that as the mouthpiece of ethical medicine, edited by the American Medical Association, Hygeia was the doctor's most devoted servant and ally, very deserving of every doctor's personal acquaintance and enthusiastic support. On April 13 and 15 a Hygeia exhibit was held at the first annual meeting of the National Safety Council. This was done at the request of the American Medical Association. Great interest was shown by men from industrial organizations. One person, wishing to know how Hygeia concerned safety, was promptly told Hygeia safeguarded health.

Our county health nurse, Mrs. Mullins, was given a subscription to Hygeia and has found it a splendid help.

Since September 1, 1926, 112 subscriptions have been sent to rural schools in Jackson County, covering the entire county; 54 subscriptions have been sold at various exhibits and meetings; 45 subscriptions are being placed by our Auxiliary in public places, such as student nurses homes, reading rooms, public libraries, clinics, etc., making a total of 212 subscriptions, 210 being the amount of our quota.

The April meeting was held at the home of Mrs. William Shutz. After the business meeting was over, Miss Mary Conover, a doctor's daughter and one of our members, gave a most delightful book review of "The Face of Silence," by Murkerigi.

ELIZABETH T. (Mrs. C. C.) DENNIE, President.

Johnson County

The Women's Auxiliary of the Johnson County Medical Society has held monthly meetings through the winter of 1926-1927 at the homes of its members. After attending to the business on hand we have a pleasant social hour talking over plans to raise money for the Auxiliary work.

We have given two subscription bridges and have on hand something over \$55, all of which will be used to extend the circulation of Hygeia in the rural schools. We have kept a copy of Hygeia constantly on the shelves of the public library and in each of the city schools and are told that it is much in demand. The teachers in our city schools praise Hygeia and make constant use of it in class work by putting on the excellent little health plays published from month to month. The children are very enthusiastic and love to take part in these plays.

We have not had regular programs at our meetings because most of us belong to other clubs where topics similar to those suggested for our programs are put on and discussed.

MRS. HARRY F. PARKER, President.

Lafayette County

Our auxiliary holds eight meetings each year and we meet with the medical society. The meetings always have an educational program.

A county health committee has been organized and our auxiliary cooperates with the Woman's Federated Clubs, Parent Teachers Association, and rural clubs, by giving health talks. We have sent in thirty-five Hygeia subscriptions, have had a March Hygeia program, and have adopted a part of the Seymour Plan for disease prevention. At the March meeting we read articles from Hygeia as well as pamphlets on communicable diseases.

MRS. J. Q. COPE.

Saline County

We have twenty three members, one active and twenty two "passive." We have had one meeting since Christmas. Our meetings are held at the hotel for lunch, business afterwards. We took charge of the Child Health Conference, sponsored by the Chamber of Commerce at our request. There are two hundred fifty children cared for.

We expect to carry out the educational program outlined for us, and we are very happy in the knowledge of the fact that Saline County has the honor of furnishing the State President, Mrs. W. M. Bickford, for the coming year.

MRS. A. E. GORE.

St. Louis City

We have 228 paid up members for this year and 25 or

BOOK REVIEWS

30 new members whom we are crediting to next year. The unwieldiness of such numbers, as well as the difference in the problems of rural and urban communities give a very decided bias to the type of activities which we can undertake.

Our first problem was to get acquainted with each other through working for some cause which would appeal to every one. The very beautiful new building of the St. Louis Medical Society which was opened last fall furnished us with our opportunity. Our opening meeting was a tea to inspect the new building. We asked not only members but all those eligible, over 1000 in all. We next had a bridge luncheon to raise money to help furnish the building. You may imagine the difficulties of serving 300 people when I tell you that the kitchen contained nothing whatever except one small stove, a sink, and a coffee pot. Since then, we have had two evening dinners for the physicians and their wives. After dinner the men adjourned to their regular Tuesday evening scientific meeting and the women stayed to play bridge or wash dishes, as the case might be. These dinners have been received with such enthusiasm that we are planning to have one every month. The need for kitchen equipment is a sharp incentive to money making.

We had one lecture on "Individual Differences in Children," by Miss Virginia Stone, head of one of the progressive education schools in St. Louis. The lecture was most interesting, but only about 40 members were present, whereas many times that number responded to the lure of food and bridge. For that reason we are planning a bridge luncheon for our annual business meeting, with the election of officers sandwiched in between the lunch and the bridge. We hope thus to have a quorum.

During the year we have cooperated with several other organizations. We gave \$200 for physical education work in the state under Mr. Curtis. We furnished a few workers for the State Board of Health booth at the Sesquicentennial Exposition in St. Louis, and about 30 workers for Cancer Week. We did a little to help the City Health Department in regard to birth registration. We served luncheon for 125 delegates to the Missouri Mental Hygiene Association.

Our Legislative Committee had a brief period of furious activity which came to nothing. Our Education Committee also has very little to report. Each successive chairman has been so enthusiastic over the Seymour Plan that she has delayed resigning until illness made it absolutely necessary. Our third chairman is now recuperating and hopes to get to work very soon. A former chairman is besieging me with requests to be reappointed. The Hygeia Committee has worked tirelessly in the face of discouragement, for we have very few subscriptions apart from the 80 which we are pricing in the public schools next year.

Although we have little to show in matters which seem to me of fundamental importance, I hope that we have laid a few foundation stones for future achievements. We must be content this year with what we have accomplished in more material ways, and that is not inconsiderable for we have this year turned over to the St. Louis Medical Society a sufficient supply of china and glassware, 30 dozen of each article, a few miscellaneous articles, 80 table cloths, etc., and the sum of \$5000. The money was given through the Auxiliary by Dr. Frank J. V. Krebs, in memory of his wife, who was one of the organizers of the Women's Auxiliary to the St. Louis Medical Society.

MAUD (MRS. H. McCLURE) YOUNG, President.

Following the county reports adjournment was taken to the church auditorium.

Afternoon Session

The afternoon meeting was called to order in the church auditorium at 3 p. m. by the retiring President, Mrs. A. B. McGlothlan.

Dr. Irl Brown Krause, Jefferson City, explained the plans of the State May Day Child Health Day Committee and with Miss Pearl McIver put on a health examination demonstration, all of which was very interesting to the Auxiliary representatives. The State Board of Health has asked the Auxiliary to cooperate in every way possible with this May Day Child Health Day work, with the preschool and school children. The plan provided a button for each six-point child, and a ribbon for each of the following points: (1) Birth registration. (2) Immunization against diphtheria and smallpox.

On motion the Third Annual Meeting of the Women's Auxiliary adjourned *sine die*.

MRS. M. A. HANNA, Recording Secretary.

NEURITIS AND NEURALGIA. By Wilfred Harris, M.D., Cantab., F.R.C.P. Lond., Senior Physician to St. Mary's Hospital, and to the Hospital for Epilepsy and Paralysis, Maida Vale. Oxford University Press. American Branch, 35 W. 32nd St., New York City. Price \$4.00.

This book is well worth while reading, especially if one can spare the time to follow it rather carefully as a neurologist or as a neural surgeon. As a reference book for the profession generally it ought to be very handy but it will have to be read quite thoroughly to get the best that there is in it. The author has evidently had a large clinical experience of his own and he has followed the literature up-to-date and extensively. He makes some discussions that we Americans at least would consider somewhat meticulous. However, it is better in a work of this kind to be too inclusive than carelessly exclusive. There is hardly any subject in the line of neuritis and what is ordinarily called neuralgia which is not included in his index. His suggestions in therapy are comprehensive. We only find one place where we would criticize him considerably and that is in the treatment of sciatica. To our minds this is very important or we would not mention it. We allude to the orthopedic methods so largely in vogue in many places in the United States in handling sciatic cases. Harris either does not use these methods to a great extent or else he has failed to stress them in his text.

F. R. F.

MANUAL OF BACTERIOLOGY. By Robert Muir, M.A., M.D., Sc.D., LL.D., F.R.S., Professor of Pathology, University of Glasgow. Revised with the cooperation of Carl H. Browning, M.D., D.P.H., and Thomas J. Mackie, M.D., D.P.H. Eighth edition. With 211 illustrations in the text and 6 coloured plates. Oxford University Press. American Branch, 35 W. 32nd St., New York City. 1927. Price \$4.75.

It was thirty years ago when the first edition of this work appeared and for these three decades Muir and Ritchie has been a standard textbook of bacteriology.

Since the death of Professor Ritchie, Professor Muir called on Professor Browning, Glasgow, and Professor Mackie, Edinburgh, to aid in the preparation of this edition. There has been extensive alteration and addition in nearly every chapter of the present edition so that the work stands as a strictly up-to-date volume on this subject. The general excellence of this work on bacteriology is too well recognized to need further comment.

R. L. T.

A TEXTBOOK OF CLINICAL NEUROLOGY. By Israel S. Wechsler, M.D., Assistant Professor of Clinical Neurology, Columbia University, New York; Attending Neurologist, The Montefiore Hospital, New York. Octavo volume of 725 pages with 127 illustrations. Philadelphia and London: W. B. Saunders Company; 1927. Cloth, \$7.00.

This volume makes a convenient reference book for medical practitioners and medical students. It is written in very lucid style and is quite up-to-date in discussing what are now the leading themes in neurological work. The illustrations are well selected and of good quality; we could wish that the author had even more like them. The arrangement of the text and index is excellent.

F. R. F.

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COMMITTEE { C. B. FRANCISCO, M.D.
M. A. BLISS, M.D.

ORIGINAL ARTICLES

THE LEUCOCYTE COUNT IN ACUTE SURGICAL CONDITIONS*

M. PINSON NEAL, M.D.

AND

DUDLEY A. ROBNETT, M.D.

COLUMBIA, MO.

When one who knows their true value stops to analyze the various statements made in current medical literature relative to leucocyte counts, it makes you wonder if all other similar published matter should also be measured as largely "bunk." We rarely read an article in which the leucocytes are mentioned without finding one or more contradictory or erroneous statements. The common error is to record a normal total count and a definite abnormal differential cell enumeration, then state that the leucocyte count was normal. Much of the discredit given to studies on leucocytosis is due to one or all of four factors: First, improperly performed counts by unskilled, incompetent individuals; these are found to be physicians in some cases, technicians and office girls. Second, interpretations are attempted by technicians, interns or physicians, who do not know the basic principles of the specificity of leucocyte changes, either in total count or in proportionate numbers. Third, the clinical picture, the leucocyte counts and surgical findings are not checked by gross and histopathology; or the true lesion is overlooked or not found unless there is a necropsy. Fourth, interpretations and recommendations being based on total cell counts without any consideration of the differential cell proportion.

With the view of (1) obtaining direct confirmation of the things we teach our students, (2) to remove the discredit from this dependable diagnostic and prognostic aid, and (3) to determine certain additional facts and factors, we began this study four years ago. It has been carried on at the University of Mis-

souri Hospitals and the Boone County General Hospital. We gratefully acknowledge our indebtedness to Drs. D. S. Conley, A. R. McComas, F. G. Nifong and Lloyd Simpson for the privilege of using records of their cases. The actual blood counts were made by one of us or one of nine assistants. One of the outstanding practical phases of the findings has been the absence of discrepancies between the leucocyte counts and pathologic findings regardless of the person making the count. These assistants, while personally trained with or selected from among our students, should be equalled by those trained elsewhere. To be more emphatic, it does not require a magician or supertrained individual to perform reliable blood counts. Meticulous care to every detail must be insisted upon, and all routes to short cuts or easy procedures must be avoided. We demand adherence to standard technic for total counts, and the differential cell percentage is obtained from a 300 cell count.

Because of time and space this paper is a condensation and yet an extension of the work as reported in detail by us in previous articles¹ to which the reader may refer for greater detail of cell type and case studies.

We bring this subject before you with the hope of creating more interest in the application of proper leucocyte counts and with the absolute conviction that such counts will be the means of saving lives, shortening hospital periods, diminishing needless suffering and preventing unnecessary operations. Our findings and conclusions are based upon the gross and histopathology of the lesions, since we believe this to be the only exact method of diagnosis. Conclusions drawn from leucocyte counts not so controlled are not accurate, as we show when they are contrasted with clinical and even operative diagnoses.

In acute suppurative disease processes requiring surgery, nothing has a more intimate bearing upon the decision for operative procedure or gives a more reliable prognosis of the case than the proper interpretation of an accurate total and differential leucocyte count. Leucocyte counts, however, are discredited by

* Read at the Seventieth Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

not a small number of clinicians and surgeons, but, as is true in other things, the ones who bray the loudest are those who know least about it—the ones most incompetent to judge. There are writers who have not the stamina to discredit the leucocyte count openly yet dare to do so by innuendo. A speaker² before this body last year said "—— the leucocyte counts if they prove anything." Some of the current textbooks and some eminent authorities on surgery and diagnosis still state the leucocyte count is not dependable as a diagnostic aid. That is true for those who depend entirely upon the total count, but false when the total count and differential cell enumeration are together taken into consideration.

Sadler,³ in 1892, and Cabot,⁴ in 1894, noted that a leucocytosis was generally, though not invariably, found in exudative diseases, with the exception of tuberculosis. Wilson,⁵ in 1901, called attention to the frequent association of a neutrophil count of over 80 per cent. in pus conditions. Sondern,⁶ in 1905, expressed the opinion, now universally accepted by pathologists, that the degree of leucocytosis indicates the amount of body resistance, and the degree of neutrophil increase is an index to the severity of the inflammatory process, while the most important point both in the diagnosis and prognosis is the relationship between these two.

Gibson,⁷ taking as the normal extreme total leucocyte count 10,000 and the normal extreme neutrophil percentage as 75, devised a "standard chart" to graphically portray Sondern's principles. Using a rectangular diagram ruled in parallel lines one centimeter apart (Fig. 1), a base line is used as the starting point connecting 10,000, the normal extreme total count which is recorded on the left side of the chart, with 75 per cent., the normal extreme neutrophil percentage which is charted on the right. A rise of one per cent. in neutrophils with each increase of 1,000 cells in the total white count represents the normal or usual reaction to be expected, hence 15,000 is connected with 80 per cent., 20,000 with 85 per cent., etc. With a proportional increase in these two factors, a horizontal line results; with a low total count and a high neutrophil percentage, a rising line; and with a high total count and low neutrophil percentage, a falling line. One centimeter variation of the neutrophil end of the line from a horizontal position is known as a unit of disproportion. These are recorded as plus or minus units, depending upon whether that end of the line is above or below what should have been a horizontal line for the given total count. Applying Sondern's⁶ principle: (1). A horizontal line means a body resistance in por-

portion to the degree and virulence of infection. (2). A rising line of five or more units of disproportion indicates a relatively poor

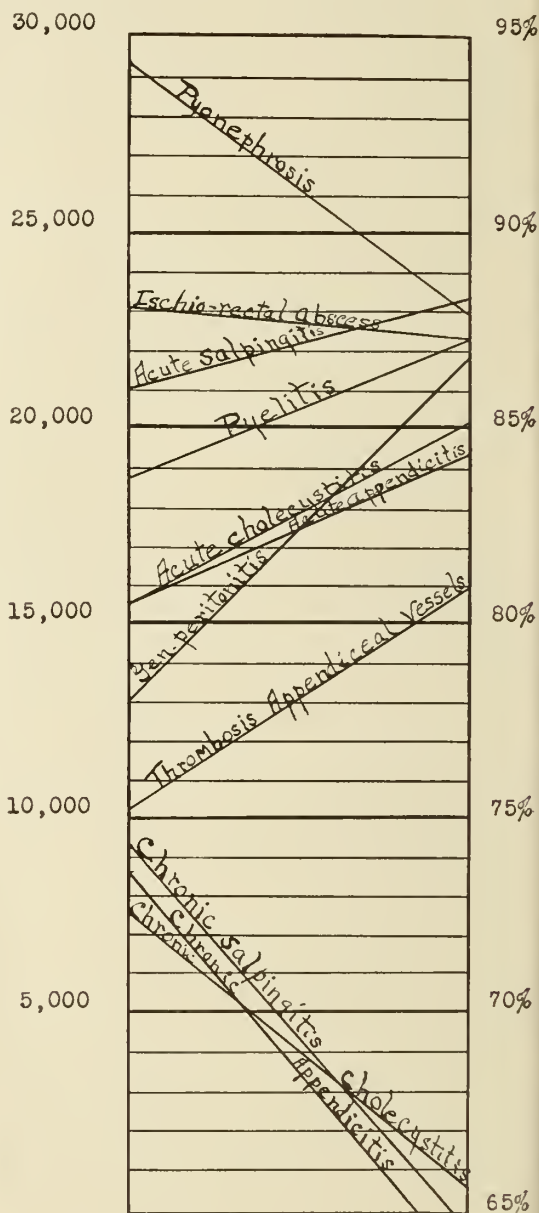


Fig. 1. Modified Gibson Chart. Pathologic groups showing average preoperative resistance line in 156 cases of acute and 97 of chronic appendicitis, 12 cases of acute and 28 of chronic salpingitis, 14 cases of acute and 25 of chronic cholecystitis, 3 cases of ischio-rectal abscess, one of pyonephrosis and 17 of pyelitis. (We here vary from Gibson who used chart paper ruled in units of one centimeter square).

resistance with a more severe infection, and therefore calls for a guarded prognosis. (3). A falling line indicates a good resistance with a less severe infection or one that has been overcome, and therefore permits of a favorable prognosis.

THE BODY REACTIVE CELLS AND DIFFERENTIAL LEUCOCYTE COUNT

The polymorphonuclear neutrophils, eosinophils, and basophils; the lymphocytes, large mononuclear (endothelial leucocytes) and transitional cells constitute the reactive cells normally found in the blood. Each type has a definite, more or less fixed, purpose, and the individual percentages vary as an increase, decrease or absence, in many of the specific diseases. In local lesions of the specific disease processes there is found the same type of specific cell reaction. The reason for the increased percentage of a particular cell in the blood in the respective specific diseases is the same factor that causes their presence in the local lesions of the disease in question. This is intimately bound up in chemotaxis, specific and selective action of the cells for particular irritant micro-organisms, or noxious soluble substances, as chemicals or toxins, and as a response to build up protective antibodies, local enzymes and ferments.

Around local processes produced by pyogenic organisms there is built up a heavy cellular wall of neutrophils acting as phagocytes and proteolytic enzyme producers. An associated early, sharp rise in the neutrophil percentage in the blood is consistently seen in all acute pyogenic infections in proportion to the degree, virulence and dose of the infection. A heavy wall of lymphocytes as toxin filters is seen around the local lesions of tuberculosis and syphilis, and a generally accepted index to these diseases is an increase in the blood lymphocyte percentage. In and around the local lesions of typhoid fever, malaria and Hodgkin's disease large numbers of endothelial leucocytes are present as the predominant reactive cells in these diseases, and in the blood there is seen an increase in these as large mononuclear leucocytes. In the lungs in bronchial asthma, in the walls of the intestine in intestinal parasitic diseases, and around local lesions in trichiniasis, there are present eosinophils; and likewise in the blood these cells are increased in numbers. In the leukemias, we find in the local tissue lesions which are comparable to metastases, the same type of cell that is present in abnormal numbers or as abnormal types in the blood. With these facts we feel justified in stating that the cell changes in the blood are identical with those in local lesions in many of the specific diseases.

An increase in the neutrophils indicates the presence of infection, and the relative percentage depends primarily upon the intensity and type of the infection and the virulence of the infective agent. A neutrophil percentage of 80 to 90 is a common value in sharp, marked,

acute pyogenic infections. A higher percentage is seen in more severe cases, even 99 per cent. has been seen, but over 95 per cent. is a bad omen. We have rarely seen recovery where there was above 95 per cent. though most heroic efforts were exerted in behalf of such patients.

Cases of chronic infection, or those infected with a low grade low virulent organism or having good drainage, show much lower neutrophil percentages than do the acute cases or those not well drained. In chronic cases there is seen a falling, horizontal or only slightly rising line on the Gibson chart, while the acute cases show generally a much sharper rising line.

Septic factor. An increase in the neutrophils associated with the absence or decrease in number of eosinophils, termed by Simon⁸ the "septic factor," we have found to be a very dependable factor in deciding upon the presence or absence of pus. The finding of normal or increased percentage of eosinophils means either infection is absent or is being successfully overcome, or that a complicating factor, as a parasitic or skin disease or bronchial asthma, is operative. After removal of a focus of infection the eosinophils again rise to or above their normal as the neutrophilia disappears.

TOTAL CELL COUNT

The absolute or total cell count in infections is an index only of the reactive power or resistance of the patient. A high total count indicates a favorable reaction of the host to the infection. In the presence of pyogenic infection we not infrequently see a low or normal total count in cases (1) that have little or no resistance, (2) that are overcome by a massive, highly virulent or severe fulminating infection from the start. We have seen several fatal cases having even a leukopenia. There may be a drop when there is a hyperleucocytosis. In such cases gravity is emphasized and recovery unlikely.

VARIATIONS BETWEEN THE TOTAL AND DIFFERENTIAL COUNTS

In general the relative percentage of neutrophils and the total count run a parallel course (horizontal line on the Gibson chart). In some patients, however, the neutrophil increase is not accompanied by a corresponding rise in total count, as is seen above. In these patients the neutrophil percentage may remain stationary or rise with an associated leukopenia, or, often, if there is a hyperleucocytosis the total count may drop. This would give a rising line on the chart, indicating increasing gravity. We have seen this happen time and

again in acute cholecystitis, gangrenous cholecystitis, ruptured and gangrenous appendices, thrombosis of appendiceal and mesenteric vessels, ruptured and gangrenous fallopian tubes and in general peritonitis. In such cases the consistently high and often climbing neutrophil percentage is our only dependence for determining the presence of severe infection.

Add to these statements, which may be proven almost daily in a large surgical hospital, the fact that we find high total cell counts in the leukemias and low counts (normal or below normal) in uncomplicated tuberculosis, typhoid fever, malaria, measles and influenza (diseases which are often differentiated from

REPEATED BLOOD COUNTS

Single cell counts are often misleading and are therefore of limited value, unless the picture is one of definite, frank pathologic significance. Repeated counts, a point that cannot be overemphasized, not only eliminate the impressions erroneously acquired from single counts, but when charted and studied give the most valuable evidence to be obtained. Counts made at 2 to 3 hour intervals, and recorded in chart form, show us graphically what is taking place in the patient relative to resistance and the spread or increased activity of the infection. If a successive count or counts show a

Table 1. Summary of total leucocyte counts, neutrophil and eosinophil percentages, with average units of disproportion. Grouped according to type and stage of disease process.

Disease Process	No. of Cases	Total Leucocyte Count			Neutrophil per cent.			Average of disproportion	Average Eosinophil %
		High	Low	Average	High	Low	Average		
Acute appendicitis	156	34000	5750*	15599	93.8	73.0	84.3	+ 3.7	0.25
Chronic appendicitis	97	18300	4300	8650	87.**	45.4	63.4	—10.2	2.3
Acute salpingitis	12	27600	17609	21050	92.6	83.0	88.3	+ 2.3	0.1
Chronic salpingitis	28	10075	6490	9252	76.0	56.8	64.6	— 9.6	2.7
Acute cholecystitis	14	21200	11200	15564	93.0	65.6*	85.0	+ 4.4	0.2
Chronic cholecystitis and cholelithiasis	25	10125	4800	7639	80.**	49.0	65.7	— 6.9	1.4
Ischiorectal abscess	3	24050	21920	23003	89.0	84.5	87.3	— 0.7	0.5
Pyelitis and pyonephrosis	18	20160	14750	18890	93.0	80.0	87.2	+ 3.3	0.0
Acute cases	203	34000	5750*	18821	93.8	65.6*	86.4	+ 2.6	0.21
Chronic cases	150	18300	4300	8513	87.**	45.4	64.5	— 9.0	2.1
Total cases	353								

* Neutrophils 82.7 per cent.

** Case No. 25-286 discussed under heading of gallbladder.

*** Case of partial common duct obstruction.

**

** Case with severe postoperative diarrhea (probably enteritis).

acute purulent processes entirely by the blood findings) and we see the fallacy of relying upon the total leucocyte count in diagnosing the presence of infection and as a guide for operation; yet it has been, and still is, widely used with little and in many cases no reference to the differential enumeration. We have frequently seen a patient held under observation because of total counts of 10,000 and less, and when operation was finally done there was found a ruptured or gangrenous visceral organ, peritonitis, spreading local infections, etc. The institutional life of such patients was prolonged, the suffering needlessly increased, and in some cases life sacrificed by the fallacious habit of depending upon the total cell count as a guide. We have also seen operations performed because of a high total count, regardless of the differential percentages, and a normal or chronic appendix, a benign ovarian cyst, or some other incidental finding was removed.

more abrupt rising line as compared to previous counts, it means the infective dose is more massive, the infection is spreading, or there is a loss of resistance on the part of the patient. Successive horizontal lines, or a rising line followed by a horizontal one, means the patient is holding his own and that his resistance is proportionate in degree to the infection. A falling line following a horizontal or a rising one indicates the infection has been overcome and the patient's resistance is able to take care of the condition. Repeated counts will show in acute pyogenic infections the rising neutrophilia, the associated drop in lymphocyte percentage and the septic factor, regardless of what the then present condition complicates.

REPORT ON CASE STUDIES

The classification of the disease process has been done entirely after gross and histologic examination of the tissues has been made, in

most cases, without any knowledge as to the blood findings, or operative diagnosis, and in pyelitis only after examination of catheterized specimens of urine. Other writers, with a single exception,⁹ have classified their cases on clinical and operative findings. Such classifications we know to be inaccurate, for in the strict pathologic classification of our 353 cases the operative diagnosis has been changed in 336 operative cases from acute to chronic 38 times, and from chronic to acute in 7 cases; a total difference of 45, or of 13.4 per cent. In none of our cases has the pathologic diagnosis been at variance with the pre-operative blood findings, where repeated counts were made, except in cases that were found to be pyelitis, pneumonia, tonsillitis, colitis, or some other similar acute lesion.

In the discussion here given of each disease process, brevity is adhered to for in Table 1 a complete summary shows the extreme and average counts for each disease group and type studied.

Case	Total leuco- cyte count	Neutrophil %	Unit of dis- proportion	Eosinophil %	Remarks
1	23040	84.5	-3.5	0.9	Death 36 hrs. later of strep. septicemia
2	24050	89.0	0.0	0.0	Death following repeated hemorrhage
3	21920	88.4	+1.5	0.5	Recovery following operation
Average	23003	87.3	-0.7	0.5	

Appendicitis. In 156 acute cases a distinct disproportionate increase of the neutrophils, shown by a rising line of 3.7 units, was present (Fig. 1). In the more severe cases, as in thrombosis, gangrene, rupture, and general peritonitis, the disproportion is much greater, as shown by the more sharply rising line. In the 97 cases of chronic appendicitis there was a decided sharp falling resistance line. In the acute cases there was an average total count of 15,599, and a neutrophil percentage of 84.3 with plus 3.7 units of disproportion, whereas the average in the chronic group was, total count 8,650, and neutrophils 63.4 per cent. with minus 10.2 units of disproportion (Fig. 1 and Table 1). Thus there was an average difference of 13.9 units, as shown by the Gibson chart, between the acute and chronic cases. The cases of interval operation, and some taken out under clinical diagnosis of acute processes but histologically found to be chronic, showed on the whole little leucocytosis, and in 86.6 per cent. of the cases there was a definite falling or horizontal line. In only 13.4 per cent. of the 97 cases was there an insignificant rising line of one to two units.

Salpingitis. In 12 acute cases there was a variation of from 17,609 to 27,600 in total count, and from 83 to 92.6 in neutrophil percentage, with an average of 21,050 and 88.3 respectively, with an average of plus 2.3 units

of disproportion. This group is in sharp contrast to the chronic group of 28 cases where the total counts varied from 6,490 to 10,075, the neutrophils from 56.8 to 76 per cent., with an average total count of 9,252, and 64.6 per cent. neutrophils with minus 9.6 units of disproportion. This gives an average of 11.9 units of disproportion between the acute and chronic cases. The acute case giving the highest count had bilateral salpingitis and pelvic abscess.

Gallbladder. Fourteen cases of acute cholecystitis or empyema of the gallbladder gave consistently a high neutrophilia, the septic factor and a rising line of from plus 1 to plus 14.8 units, except that of case No. 25-286 in which there was minus 18.8 units of disproportion (Table 1). In this case, that of an early acutely inflamed gallbladder, the single preoperative count was 19,456, the neutrophil percentage 65.6, and eosinophils were absent. The count, best for comparison, obtained eight days postoperative was total 7,200, neutrophils 42.5

per cent. and eosinophils 3 per cent. Using this as representing approximately the patient's normal, the preoperative count would then have shown an actual neutrophil increase of 23.1 per cent. It is to be regretted that more preoperative counts were not obtained on this patient.

The blood findings in 25 cases of chronic cholecystitis or cholelithiasis without infection have shown, except in two cases, a normal neutrophil percentage and a proportionate total cell count giving a horizontal line or, in most instances, a falling line on the Gibson chart. The exceptions were both cases of partial common duct obstruction with coincident jaundice in which the neutrophil percentages were 79 and 80.

Ischiorectal abscess. The preoperative blood findings in three cases were:

Pyelitis and pyonephrosis. Total counts made on 17 cases of pyelitis when first seen were from 14,750 to 20,160, and a neutrophil per cent. variation of from 80 to 93, with eosinophils absent in all cases. The average for this group was total count 18,890, and neutrophils 87.2 per cent. The counts on the case of pyonephrosis which required operative intervention showed slight daily variations until thorough drainage was established Sept. 30, and then there occurred a very marked drop in total count and neutrophil percentage. The following condensed chart of this patient em-

phasizes the value of repeated blood counts until the disease process has completely cleared up:

Patient	Date	Total leucocyte count	Neutrophil %	Eosinophil %	Pathologic diagnosis	
Wilson	9-14	22800	86.0	0.0	Pyonephrosis	
	9-19	25174	88.8	0.6		
	9-21	29216	88.0	0.6		
	9-23	Operation, incision and drainage				
	9-24	30016	86.8	0.0		
	9-30	Pocket opened and drained				
	10-3	12544	65.4	0.0		
	10-11	10668	70.	0.0		

LEUCOCYTE COUNTS COMPARED TO CLINICAL FINDINGS

All our acute cases with severe lesions, as gangrene, peritonitis, thrombosis, spreading infection, etc., show a rising line of five or more units on the Gibson chart with a very definite increase in neutrophils and the presence of the septic factor. Cases having a slightly rising or horizontal line, or with an eosinophil percentage above 1.5 were distinctly mild types. It is in the severe cases that the complete blood picture is of greatest value, particularly those in which the initial symptoms are vague or perplexing; or those in which the symptoms, as pain, fever, nausea, vomiting, etc., abate or cease following thrombosis or gangrene. These are the cases that go on to spreading infection, rupture, peritonitis and death when one depends upon any and all diagnostic measures to the exclusion of thorough and competent complete leucocyte counts. To demonstrate the value of the leucocyte count as compared to the diagnostic signs and symptoms of acute abdominal conditions, we analyzed closely 182 acute surgical cases. In this group the leucocyte findings indicated operation a necessity when:

1. There were no clinical signs or symptoms indicating that such was necessary in six cases, two being gangrenous appendices and one an empyema of the gallbladder with gangrene. This group would have gone to a more general infection and probably death had not interference been made on the blood findings.

2. The temperature was below 100 F. in 97 cases, of which number in 35 cases it was normal or below.

3. The pulse was 80 or below in 57 cases, and 70 or under in 15.

4. We usually look upon the stomach as bespeaking, through nausea and vomiting, acute abdominal troubles as a good clock tells time, or as a gossiping tongue tells the scandals of our neighbors; yet nausea in this group was absent in 36 instances and vomiting in 58.

5. In 8 instances rigidity was recorded as absent and in a number of others as only slight or perceptible.

6. Pain was totally absent in 5 cases; whereas it had been present but had ceased in 6 others.

These indisputable facts show that the proportionate leucocyte count is the safest and most dependable guide in deciding upon the necessity for operative intervention. Particularly is this true in the most severe cases where clinical signs and symptoms at their best are often deceptive.

POSTOPERATIVE BLOOD COUNTS

During the first twenty four hours, in clean cases and those in which no complications developed, there was a postoperative rise of from 1,000 to 3,000 in the total count and from one to three in the neutrophil percentage. The proportion between the total count and the neutrophil percentage was almost constantly maintained, and there was a prompt return to their normal values by the third to fourth postoperative day.

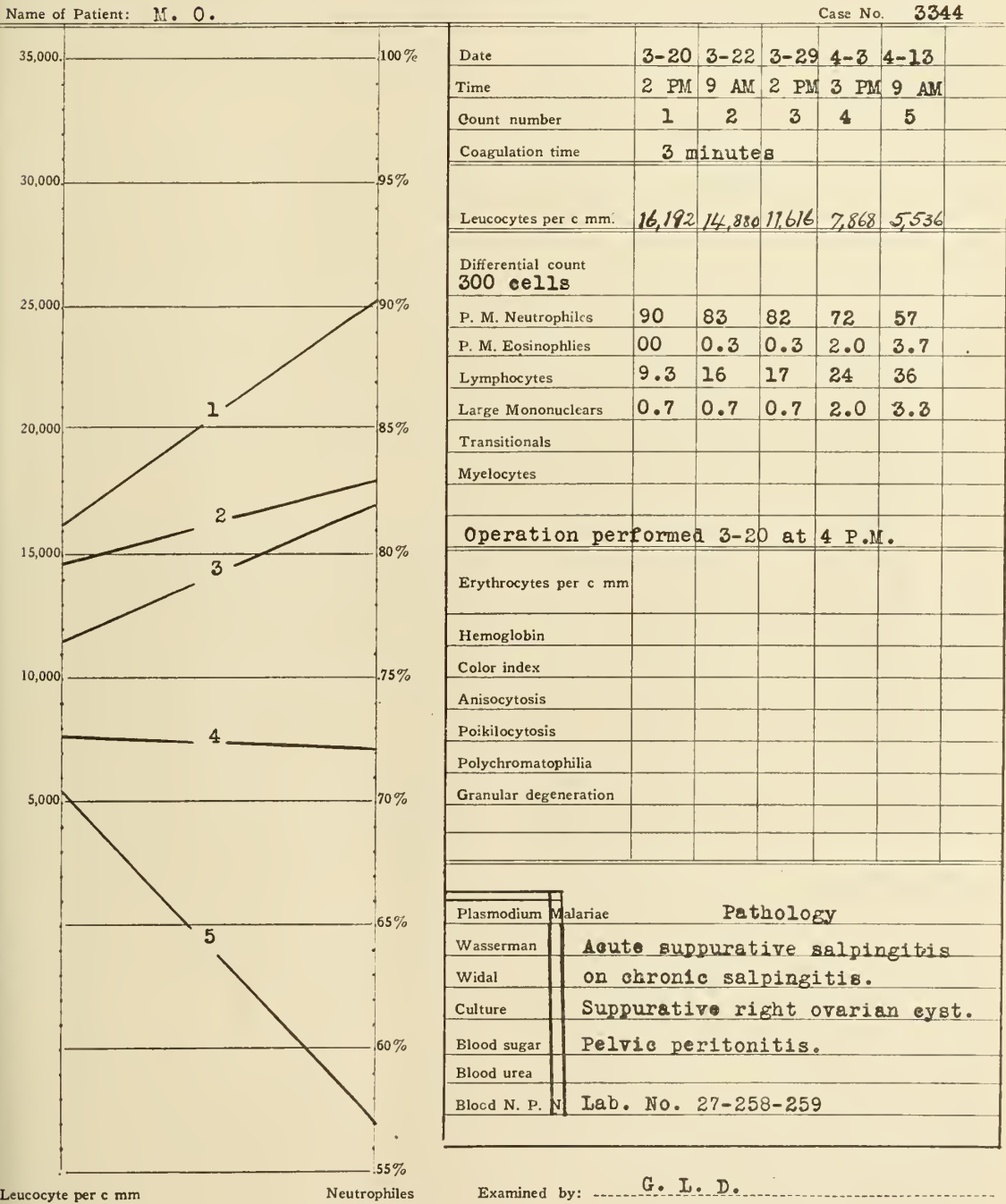
In drainage cases and those developing severe complications there was invariably a more marked rise in both the total count and the neutrophil percentage; and almost always a rising line on the chart out of proportion to the expectancy of normal clean cases. This disproportion with the elevation of total count and neutrophil percentage in every case persisted until the nidus of infection was removed, drained, or became resolved, as in pneumonia.

There is much less use made of the postoperative blood count than there should be, and certainly less than would be if the profession recognized the value that lies in it, and oftentimes the mental relief to be obtained from having the accumulated knowledge from the daily count when something goes wrong, as a postoperative chill, fever, or other systemic or local reaction. We have found that in the puerperium and postoperative cases nothing will give the early information of infection, superimposed or spreading infection, or inadequate drainage, as efficiently or as early as the blood picture. To use this for its full value it is essential to have repeated, preferably daily, postoperative complete counts, recorded by chart so one can see at a glance just what each day's resistance line is as compared with previous days and with the preoperative count. To demonstrate this the record of case M. O. is included as Table 2.

SUMMARY

The cases cited, so far as the correctness of the findings is concerned, could be duplicated by many others not included in this series. The total leucocyte count is the safest guide to the resistance the patient is offering to infection,

Table 2. Daily count on case
BOONE COUNTY GENERAL HOSPITAL
BLOOD EXAMINATION



form, it brings into prominence features and relationships which otherwise remain in the background or totally unrecognized.

Clinicians and surgeons who disregard the value of the evidence to be found from the total and differential proportionate count valuation are not using the full resources of practical diagnosis. By the findings one may intelligently recommend palliative treatment, simple rest, watchful waiting or immediate operation, as the unit of disproportion is minus, stationary, plus, progressively rising or falling. A patient with a progressively rising line demands artificial removal or drainage of the focus of infection; whereas, one with a falling line would permit the temporizing or of palliative treatment.

We cannot too strongly urge the routine pathologic examination of all surgical tissues. In this group of 353 cases the histologic findings have satisfactorily explained discrepancies that arose as the result of the clinical and operative diagnosis. Phlebitis, abscesses, wound infections and pneumonia, otherwise unaccounted for, have been shown to be secondary to a more severe lesion in the diseased organ, or around it, than had been suspected from operation.

CONCLUSIONS

1. Much of the discredit given to leucocyte counts is because of improper technic, interpretations without knowledge of the specificity of leucocyte changes and function, lack of control by histopathology and failure to coordinate total and differential cell counts. One should be certain that the method of obtaining a result and the record thereof is correct before a procedure is criticized or condemned. Are you or your technic at fault, or is the procedure itself?

2. Leucocytosis in inflammation is an index to the patient's reaction, not to the severity of infection. The neutrophil percentage increase is the dependable means of determining the presence of pyogenic infection.

3. There is an increase in percentage of the particular type of leucocytes in the blood corresponding to the reactive cells playing important predominant roles in local lesions of acute inflammation and those of leukemia.

4. The "septic factor" almost invariably present in acute suppurative diseases is not found in chronic cases.

5. Repeated complete counts are of incalculably more value in the diagnosis and prognosis of a case than is a single isolated count, and must be obtained where there is doubt.

6. No clinical sign, symptom or finding is as dependable as a complete leucocyte count in determining the presence of acute pyogenic inflammation or in measuring the body resistance of the patient.

7. A falling total count does not necessarily

mean a subsiding disease. It may indicate an overwhelmed or broken resistance by a massive highly virulent infection, a spreading fulminating infection, thrombosis of the vessels, or gangrene. A falling total count with a stationary or rising neutrophil percentage demands immediate operation and warns one to give a guarded or grave prognosis.

8. We do not wish it understood that the blood finding should be used to the exclusion of clinical signs and symptoms. To the contrary we would emphasize that the blood findings should be taken with these into the study complex and the surgeon or clinician who is so guided becomes a better diagnostician and prognostician than one who does not use these resources to their fullest. The presence of a neutrophilia means there is a pyogenic infection with inflammation somewhere within the patient's body. It cannot be depended upon to locate the lesion in the appendix, gallbladder, lungs or elsewhere; only a careful, clinical history and thorough physical examination will locate anatomically the disease.

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DISCUSSION

DR. FRANK G. NIFONG, Columbia: I must express pride in the fact that this epochal work comes from Missouri University in Columbia.

In my youth I knew an old doctor who was a good general practitioner and family doctor. He had never used a fever thermometer nor a hypodermic syringe because those things came in after his graduation. He was a very good doctor, too. There are good doctors now who will never use this differential blood count and this graphic Gibson chart in estimating the time of onset and the virulence of an infection. Nevertheless, we must progress and this is marked progress. Heretofore, we have been accustomed to have a white blood count made and let it go at that. We see that yet in the majority of our case reports in the literature.

Because of this limitation the blood count has become somewhat discredited and its value underestimated. The leucocytes, as warriors in battle against the infection, are of much value as an index of fighting ability, but they give us no information as to whether victory may be gained. Some time ago the discovery was made that a very high white count may not mean a pus infection but, perhaps, a pneumonia. A good surgeon has learned to question the thorax well before he invades the belly when we have such a count, because the pain may be a referred one.

Now come these young men and show us something different. They have shown us how the blood stream, so analogous to a mobile army, goes forth to battle infection and its story reads like a perfect romance. What a field it is for youth, energy and enthusiasm to investigate. What enticing work it must be to differentiate these various cells and interpret their meaning. And when to that is added a long series of observations where unvarying phenomena are observed and the meaning interpreted, as it is in the work of these doctors, how exceedingly valuable as well as romantic it becomes. These graphic charts are most valuable in abdominal infections, much more valuable than our temperature charts. They are not less valuable than the significance of pain. You may have pus in a belly and a subnormal temperature. You may have a ruptured appendix with pain ceasing simultaneously.

It is not my desire to overestimate the value of this new knowledge nor to discount our old clinical methods, but properly to weigh the significance of this additional procedure in contrast with the old and tried methods of diagnosis that we have been accustomed to use. I would guard always against a so called laboratory diagnosis. What I would wish to do is to add this procedure to all our clinical findings and the history obtained as an invaluable help both in making a diagnosis as well as estimating a prognosis.

You know we are Missourians and "must be shown." In our little clinic at Columbia during the last few years we have become convinced. There are just enough exceptions, most of which are explainable, to prove the rule. Leucocytosis, in a general way, is the index of the patient's battling capacity. Neutrophils are the index of infection. If the leucocyte end of our chart line will stay higher or at least on the level with the neutrophil end we will most likely win. If the neutrophil end of the line rises and the fighting leucocyte end lowers, we may expect disaster. We use this important information therefore as a determining point to tell us whether it is wise to invade a belly at once. Time and again we have been thankful for this information, forestalling perhaps a ruptured appendix and the peritonitis to follow. What a comfort it is too to see in twenty four or forty eight hours after operation the neutrophil end on the chart descend and know we are safe. It is all so simple, so practical, that I wonder if you all get it. I hope so and I hope you will not let it go by default as did my old doctor friend with the hypodermic needle and the fever thermometer.

DR. E. LEE MYERS, St. Louis: I feel this paper is too valuable to let it go without a few words from some one besides a general surgeon. I have been using the method known as the McKernon chart in ear, nose and throat work for about two years. It is slightly different from the Gibson

chart. We use it in connection with the hemoglobin estimation, and it may have some advantages, particularly in the kind of sepsis that we deal with, usually sinus thrombosis. If you keep track of the hemoglobin as to the relationship of the total leucocyte to the percentage of polymorphonuclears and find the hemoglobin keeps dropping and gets down to about sixty it is time you do some transfusions.

DR. EDWARD L. STEWART, Kansas City: When blood counts were first made use of as a means of laboratory diagnosis, little or no attention was directed to the percentage of the different types of cells present. Later when it was learned that the polymorphonuclear leucocyte was the one type that suffered an increase in acute infections, the differential count was considered necessary to a more accurate diagnosis. In this count the percentage of polymorphonuclear was the principal object sought. The differential count was a decided step forward in laboratory diagnosis. That was years ago. Today we have heard from Doctors Neal and Robnett the necessity of carrying the differentiation of types of leucocytes still further, being guided in this further subdivision by the staining reactions of granules found within the cells.

That certain granulocytes possess acidophil, basophil, and neutrophil granules is nothing new, but the importance of the varying percentages of these three subtypes, and their interpretation as an index to the amount of bodily resistance against the infecting organism as shown by the essayists, is another important step forward in laboratory diagnosis.

If therapeutic and operative procedures are to rest upon so fine a thread as the chemical reaction of cell granules, determined by the staining process, it will surely mean that we must tighten up on our technic of blood staining. I am sure that all of us have been careless at times in this regard. Films should be stained within a reasonable time after being made. Stains must be nothing short of the best. The time used for fixation and staining must be standardized, and only distilled water used for dilution and for washing.

Many hospitals and physicians intrust their blood counting to technicians who, with their limited period of training, cannot be expected to show as much proficiency in the staining and interpretation of blood films as a physician trained for years in the art. I recently saw a technician attempting to do a differential blood count with the regular blood counting chamber, which was never intended for other than total counts. True, the mononuclears can be differentiated from the polymorphonuclears with a fair degree of accuracy, but what about differentiating the subtypes, which can only be determined after careful staining. As has been brought out by the excellent paper to which we have just listened, this determination is necessary.

The blood chart as shown by the essayists and as used by them, resembles the standard fever chart in that readings are made at stated intervals, marked according to a scale thereon and the points joined with a line. A glance will tell whether the fever or the neutrophil, as the case may be, runs up or down. In the case of the blood chart the general line will speak for either an acute, a subacute or a chronic process.

I wish in closing my remarks to congratulate the members of the Association here assembled for having the good fortune to hear Dr. Neal's paper, and learning of the pioneer work in blood cytology that he and Dr. Robnett are doing. We had been

told that a paper of unusual merit awaited us. We were not disappointed.

DR. DUDLEY A. ROBNETT, Columbia: We have tried to take this up from a particularly practical point of view. Reading this paper as we have read it, with all the detail in it, makes it sound theoretical. If I had never worked on it, if I had never used the count, if I had never depended on it I do not think I would get much out of it, but I believe if any one will give this paper a little study it will prove a simple matter to apply our procedure.

The count is not difficult to make. Our technicians can make the complete count satisfactorily in about fifteen minutes. We have only about six cells to study in the blood and those cells are as different as different individuals. After a little training a technician can classify them. Then it only means counting 300 of those just as you count marbles. We do not ask the technician to do anything but record what he sees, and you have your chart, up or down.

In the old days when the doctor went out with the little tube and took his total count, by the time he got back to his laboratory he probably had half of what he started with. Even though he had it all it was unreliable.

The differential count can be made with two slides, just as Hunter used to make his mouth smears. You pull it just as you pull it for malaria, put it in your pocket, take it back to the laboratory and have your technician stain and count it, and at once you know whether that patient should go into the hospital or stay at home. We have never seen a patient have one bit of trouble where the neutrophils were below seventy two per cent. If the patient has sixty, sixty five or seventy per cent. neutrophils you can wait until morning. What has happened in 500 cases absolutely checked by histopathology I believe will happen in 5,000. On the second or third day of a postoperative case, or the sixth day, when you have an ileus and do not know whether you should go in or not, if you follow this chart and the neutrophils are dropping or staying where they are, you can watch and wait, you know there is no pus. If there is pus pocketing there, you will get an increased neutrophil count and you will get it every time.

Another place where it is of wonderful value is in the gallbladder cases. Recently in one of our journals I saw an article about two cases; one they decided not to operate, the other they decided to operate. The one that was operated had a gallbladder full of pus; the other got well. They patted themselves on the back for their clinical judgment, yet they gave a differential count and total count and did not mention them; we could tell at Columbia that operation was not necessary in one case and was in the other, because in one case the neutrophil percentage was ninety four, in the other sixty six. We wouldn't even have thought of operating on one case and we would have demanded operation in the other.

In regard to the hemoglobin chart with the neutrophil count, I believe that the Gibson chart is a little simpler and easier, and it not only applies to the particular line that Dr. Myers spoke of, but it will apply to all cases. It is a simple thing. Your technician can get it in two or three weeks' time and give you satisfactory counts, and I believe, just as Dr. Nifong has come to believe, that every surgeon would feel more comfortable if he had this aid at his command.

LEUCOCYTE COUNT IN APPENDICITIS

A COMPARATIVE STUDY WITH BIOPSY FINDINGS IN ONE HUNDRED AND SEVENTY OPERATED CASES

ROBERT KORITSCHONER, M.D.

KANSAS CITY, MO.

This study which was carried on at the Mercy Hospital at Iowa City, Iowa, extended over the period of one year and was suggested by the apparent lack of the symptom correlate between pain, vomiting, fever, and leucocytosis and the pathological findings in this disease. Of necessity it must be statistical in character and for this reason I have chosen leucocytosis as a symptom of both clinical and pathological importance. The others are just as irrational in their behavior but the leucocyte count has been so universally accepted as a criterion for surgeons that it would seem the most plausible for comparison purposes. In all cases where there was an increase in the leucocyte count there was a relative increase in the polymorphonuclear count, the average being around ninety per cent.

The classification of acute, subacute, and chronic appendicitis was made upon the histological findings. In this discussion we adhere to the term "chronic appendicitis" as one of common nomenclature although we do not find in these cases any evidence of an active inflammatory process such as the suffix "itis" would suggest. It would be better to change to the Greek and use the ending "pathia" which means disease and not inflammation. Such is the term recently proposed by Aschoff. Hence it would be better to designate these cases as chronic appendopathia rather than chronic appendicitis. The same holds true for myopathia in myocarditis and nephropathia in chronic nephritis. It is in these cases that we find only the residue of inflammation, the scar tissue of a healed process yet a more or less disfunctioning tissue.

The following table will show the correlation between the leucocyte count and the histological findings in one hundred and seventy patients:

57 cases were histologically acute appendicitis.
17 cases were histologically subacute appendicitis.
96 cases were histologically chronic appendicitis (pathia).

The tabulation of the fifty seven acute cases with relation to the leucocyte count is as follows:

4 cases less than 10,000 leucocytes.
12 cases between 10,000 and 15,000 leucocytes.
21 cases between 15,000 and 20,000 leucocytes.
18 cases between 20,000 and 30,000 leucocytes.
2 cases more than 30,000 leucocytes.

Of the acute cases seven per cent. showed a leucocyte count of less than 10,000, twenty one

per cent. showed a leucocyte count of less than 15,000.

Of the seventeen cases of subacute appendicitis:

10 cases showed a leucocyte count of less than 10,000.

7 cases showed a leucocyte count of less than 20,000.

Of the ninety six cases of chronic appendicitis (pathia):

67 showed less than 10,000 leucocytes.

21 between 10,000 and 15,000 leucocytes.

7 between 15,000 and 20,000 leucocytes.

1 more than 20,000 leucocytes.

Of the chronic cases thirty per cent. showed more than 10,000 leucocytes and eight per cent. showed more than 15,000 leucocytes.

In order to evaluate these comparative findings, which in several instances are correlated, it is necessary first to understand the causes and occurrence of leucocytosis from both a normal and a pathological viewpoint. The normal number of leucocytes is considered to be between six and eight thousand per cubic millimeter. The normal daily fluctuations are from 7,400 at six in the morning to 10,000, at seven in the evening. The experimental evidence as to whether this increase is due to the ingestion of food or whether it is due to the increased activity of the heart (as some writers maintain) is not conclusive.

An increase in the leucocyte count of two or three thousand is usually observed during pregnancy and at the time of delivery; a count of twenty thousand is not uncommon. The count in the newborn as a rule varies between seventeen and nineteen thousand. Counts of thirty two thousand have been observed. Probably the most constant variations are noted after physical exertion and thermal irritation. Fuchs found an increase of from 7,500 to 11,700 after an individual had been rowing for half an hour. It is not uncommon to find a leucocytosis in the epileptic after a seizure. Also after there has been an alternating exposure to heat and cold such as cold baths and hot air. Aschenheimer has reported that sunlight produces an increase of leucocytes.

Taking into consideration that the great majority of the patients come to the hospital just after being informed that an operation is in all probability their only alternative, the mental excitement incident to the decision, occasionally after a long and hot trip in an ambulance as a rule in the afternoon, and before that have had numerous hot applications applied to the abdomen, it is not at all surprising that there is a lack of balance between the blood count and the pathological findings. These factors will undoubtedly explain the relatively high counts where there is an abscess of inflammation.

From these observations it is only logical that we should arrive at the conclusion that a blood count made in the morning after a period of rest and tranquility should be authentic information. It is under such circumstances only that a blood count in the so called chronic cases of appendicitis is of value.

In the cases cited there are several in which there is a low leucocyte count with an active inflammatory process. This may be explained when we take into consideration the causes of pathological leucocytosis. Leucocytosis is caused by an irritation of the bone marrow by some exciting toxin usually the products of bacterial action. We know that toxins in moderate amounts produce a moderate leucocytosis; in a severe or to be explicit an acute invasion they produce a high count. Yet it is not uncommon to observe that an overwhelming toxemia acts as a depressant and we do not get the leucocyte response. This is illustrated by the leucocyte response in typhoid, measles, glanders, tuberculosis, influenza, epidemic parotitis, polyomyelitis, and malaria in the intervals.

At the present time there cannot be any one bacterial organism upon which to shoulder the blame for appendicitis, all of the called experiments, inconclusive as they are, to the contrary. In all probability there are numerous agents capable of inciting an inflammatory process in the appendix and no doubt there are some that are not able to incite leucocytosis. I have observed one case in which there was a very severe streptococcus (fatal) septicemia and a leucocytosis was never present. Furthermore the organism isolated from this case injected into experimental animals in pure culture failed to produce any increase in the leucocyte count.

We must therefore come to the conclusion that the relative value of the leucocyte count in appendicitis is of value only in cases of acute and so called chronic appendicitis when correlated with the clinical findings. In this they are of value in that they offer some basis for prognosis. Yet there is much to be said for the routine blood examination and as an aid but not a diagnostic feature it should not be neglected.

In the routine followed in the cases cited we found two cases of leukemia not suspected. Another appendicitis due to oxyuriasis which was suggested by the eosinophilia. It is in these rare but nevertheless important cases that the value of routine blood examinations stands forth as an aid to diagnosis. But it should not be considered as a criterion for operative interference.

SOME OBSERVATIONS ON THE TREATMENT OF PERNICIOUS ANEMIA*

AUGUSTUS P. MUNSCH, M.D.

ST. LOUIS

No disease claims a better right to be brought before this audience than pernicious anemia. The combined efforts of the clinician, research worker and others seem in the past to have made little noticeable progress. Much has been written on this subject since the description by Addison in 1849 and by Biermer in the early seventies. However, at this writing the definite etiological factor of the Addisonian anemia is not known.

Frank A. Evans in his treatise on pernicious anemia¹ less than one year ago, states: "The treatment of pernicious anemia is discouraging. Because the etiology is unknown, no rational procedure calculated to correct the basic disorder can be instituted. No patient can be cured of pernicious anemia, and it is extremely questionable whether life may be prolonged. Therapeutic measures are, therefore, primarily palliative and are largely symptomatic. To hasten or induce a remission, a whole blood transfusion may be given."

Charles F. Martin,² of Montreal, states: "After all one must remember that pernicious anemia is not so much an essential disease entity with one definite etiology, but rather it is an expression of a widely disseminated poison manifesting itself at various points of attack in the body, and in different ways. One must look then upon pernicious anemia as having some unknown but definite etiologic factor of the nature of an infection, or a toxin which acts generally upon various parts of the body, affecting always the bone marrow and peripheral blood picture, sometimes attacking the spinal cord in varying degrees, usually affecting various organs and tissues of the body, and thus providing a series of clinicopathologic features."

Harold W. Jones, of Philadelphia,³ less than a year ago states, that blood transfusion in pernicious anemia produces better and more permanent results than any other therapeutic measure.

Yates and Thalhimier⁴ about four months ago stated that during the treatment of a patient for pernicious anemia, 113 transfusions were given in three years from many donors. This patient's spleen had been removed before these blood transfusions were given.

Eddy and Downs⁵ report that they found diet most important in the production of anemia and in blood regeneration. The diet found to favor production of hemoglobin and red cells, arranged in their order of importance, are cooked beef liver, lean beef, beef heart, spinach, beet tops, fruits and other green vegetables.

The publication of the epochal work of Minot and Murphy, of Boston,⁶ on the treatment of pernicious anemia by a special diet, is bringing about a decided progressive change in the treatment of this hitherto considered hopeless condition. In 1746 Menghini showed that iron should be increased in the blood by feeding iron containing food to animals. The most recent important work concerning the effect of food on blood regeneration has been done by Whipple and Robbins. Their carefully controlled work on dogs has shown the value of certain foods, especially liver, on accelerating blood regeneration following acute hemorrhage and the value of iron added to the diet to decrease the anemia due to chronic blood loss.

In spite of attention to diet for the anemic patient the influence of food on blood formation and destruction has until recently received comparatively little consideration. Special sorts of food because of some particular effect have seldom been chosen for patients with pernicious anemia. Whipple and Robbins in one of their comments remark that any person who works with standard "anemia dogs" and observes the ease with which hemoglobin regeneration can be controlled by diet factors, comes to believe that many types of human anemia may be treated to advantage by diet control rather than by other methods.

Simmonds, Becker and McCollum⁷ state that liver fats contain vitamin E in considerable amounts and liver contains much iron. They believe that vitamin E is a companion substance specifically related to iron assimilation which must accompany it in order that physiologic utilization may be possible. The special value in their opinion of liver in the diet recommended by Minot and Murphy lies in its content of vitamin E and of iron. This appears to be an explanation for the therapeutic value of liver in the treatment of pernicious anemia.

The blood destroying properties of certain substances derived from fats and the role they play in pernicious anemia have been commented upon by some investigators. Excess of fat in a diet favors putrefactive changes within the intestine, a condi-

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

tion which is frequent in pernicious anemia. Improvement derived from low fat content of the diet may be attributed more to alterations in the bacterial flora than to direct effect on blood formation or destruction. It has been observed that pernicious anemia is rare in certain parts of the world where diets are decidedly different from those of Northern Europe and America where the disease is found more often.

Following the work of Whipple and Robins, Minot and Murphy made observations on patients concerning the influence on blood regeneration of a diet containing an abundance of liver and muscle meat. The effects appeared similar to those found in dogs. These observations led Minot and Murphy to investigate the value of a diet with an abundance of food rich in complete proteins and iron, particularly liver, and relatively low in fat as a means of treatment for pernicious anemia. Observations have been made by them on 45 patients having typical pernicious anemia first partaking of such a diet when in a relapse and continuing it from six weeks to 2½ years. When the patients had remained much better for many weeks their diet was somewhat modified, particularly by decreasing the amount of liver and fruit.

Besides the special diet for these 45 patients, therapeutic regimen included rest, usually at first in bed for twenty four hours a day. All but three also took each day about fifteen cc. of diluted hydrochloric acid (U. S. P.). These three however improved at least as much as the majority of the others. None of the patients received any special treatment shortly before or after the diet was begun, except one man, aged 69 years, with pronounced spinal cord lesions and advanced arteriosclerosis, who was given five transfusions of blood while attempts were made to get him to eat. Three months later he remains the least well of all 45, except for one woman who recently has omitted her diet. Blood was transfused to three others just before the time they first took the special diet. The red cell count of none of these three was above 1,400,000 per cmm., four days after transfusion. Many of the 45 patients had definite symptoms due to pernicious anemia for more than two years and two of them experienced such symptoms ten years before taking the special diet.

During this time many received various forms of therapy without distinct benefit, including transfusions of blood. Minot and Murphy further report that clinical im-

provement on this diet has been obvious usually within two weeks. Before the end of the first week there was a definite rise of the reticulocytes of from about one per cent. to usually about 8 and even to 15.5 per cent. of all the red blood cells. If liver and similar food is of value every means must be taken to get the patients to eat daily as much as possible, preferably 200 grams or more. Failure could be attributed to taking too little of such food. In summarizing their work Minot and Murphy state that this dietetic treatment of pernicious anemia is of more importance than hitherto generally recognized.

This diet is composed especially of foods rich in complete proteins and iron, particularly liver, and includes an abundance of fruits and fresh vegetables and relatively low in fat. Following the diet all the patients showed a prompt, rapid, marked symptomatic improvement, except for pronounced disorders due to spinal cord degeneration. Improvement was often striking. Where the red blood cell count averaged for all before starting the diet 1,470,000 per cubic millimeter, one month afterward it averaged 3,400,000; and for the 27 cases observed from four to six months after the diet was begun the average count was 4,500,000 per cmm. All the patients have remained to date in a good state of health except three who discontinued the diet. Two of these rapidly improved on resuming the diet and the other one has just commenced it again. Enough time has not yet elapsed to determine whether or not the remission will last any longer than in other cases. Murphy⁸ and his coworkers report detailed results of ten patients with pernicious anemia treated by a diet rich in liver. They report a prompt, rapid and distinct remission of the anemia in each case. No medicine was given except dilute hydrochloric acid.

REPORT OF CASE

In November, 1926, W. B. entered St. John's Hospital, St. Louis, having symptoms and signs as well as the blood picture found in what is recognized as typical pernicious anemia. He complained of general weakness, gastro-intestinal disturbances, vertigo, numbness of hands and feet for the past year, gradually getting worse, with no desire for food for the past four months. There was little loss of weight, an increasing pallor as the symptoms became more pronounced, and a lemon yellow tint to the skin, while the sclera became pearly white. The tongue was pale, anemic looking, smooth, shiny and glossy, as found in prolonged achlorhydria. The mucous membrane of the mouth and throat were seemingly bloodless. His blood picture, November 9, 1926, showed 6,440 white cells and 1,910,000 red cells, 50 per cent. hemoglobin (Sahli), color index 1.3, coagu-

lation time 2 minutes. The differential showed 40 per cent. lymphocytes. The red cells showed normal-blasts, poikilocytosis and anisocytosis. The patient belonged to group 4 according to the Moss method of blood grouping. Gastric analysis showed no free hydrochloric acid. Blood Wassermann negative.

The patient had no desire for food for more than four months. However, after gallbladder drainage according to the Vincent Lyon method, food was relished for the first time the evening of the same day. In less than six weeks all the symptoms were strikingly relieved, with gradual, constant and consistent improvement in the blood picture so that he now presents a ruddy, healthy, active appearance. His blood picture showed white cells 8,040, red cells 4,560,000, hemoglobin 90 per cent., color index 94, coagulation time $2\frac{1}{2}$ minutes, lymphocytes 27. The red cells show practically none of the abnormalities found in pernicious anemia.

No transfusion has been given at any time. No medicinal iron or any of the usual medication, except 20 drops of dilute hydrochloric acid (U. S. P.) before meals. The cessation of hemolysis occurred coincident with or on account of treatment by special liver low fat diet, referred to by Minot and Murphy.⁶

C. H. Neilson, of St. Louis, has noted a decided rapid improvement in patients with pernicious anemia on this diet who previously failed to improve with blood transfusion. George Ives, in a discussion before the St. Louis Medical Society December 21, 1926, stated that since the previous August ten cases of pernicious anemia under his care who had been having blood transfusions are now on this diet and all 10 showed very favorable results. The majority show a blood picture practically normal and are apparently well. No blood transfusion has been given them while on this diet. In the same discussion Louis Behrens and T. H. Hanser each reported three cases of pernicious anemia under their care showing similar improvement on this diet and without transfusion. We have noted in some patients with no desire for food that following gallbladder drainage according to the Vincent Lyon method, the patient relished food.

Blood transfusion has its place in the treatment of pernicious anemia. When the patient is first seen in a low condition it will often tide the patient over until such a time as he will be able to partake of the special diet. However, where formerly blood transfusion in pernicious anemia was the rule, now with patients on this diet the necessity for blood transfusion will be reduced more than 90 per cent.

CONCLUSIONS

1. Patients with true pernicious anemia improve more on the special diet as recommended by Minot and Murphy than with any other known method of treatment at present.

2. Many patients who have not responded to blood transfusion, or any other treatment, have become clinically well on this diet without the aid of blood transfusion.

3. Gallbladder drainage according to the Vincent Lyon method has been followed by a desire for food in patients who previously refused nourishment.

4. Blood transfusion is of value in tiding the patient over a crisis until able to partake of special diet.

5. With the aid of special diet recommended by Minot and Murphy, the necessity for blood transfusion in the treatment of pernicious anemia has been reduced more than 90 per cent.

6. No deaths have occurred from true pernicious anemia in any of these cases while partaking of this diet.

306 Humboldt Building.

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PERNICIOUS ANEMIA*

FRANK I. RIDGE, M.D.

KANSAS CITY, MO.

The title or subject of this discourse should be changed. The term "pernicious anemia" is misleading and a misnomer. It does not describe the symptoms which I wish to convey. Rather the title should read something like, "Uncompensating or Exhausting Hemolytic Toxemia." I do not believe that these types of anemia are always pernicious in that they come to death. I am certain that I have seen patients in the early stages who have by some means or another aborted the final conditions which we term pernicious anemia. By this I mean to convey the thought that there is always to some extent a conflict between these hemolytic toxins and the hemopoietic system and tissues. Not until the toxins have been produced for some time and have maintained a supremacy, or they become present in overwhelming amounts, do they give the general pathology and the dire results that all are led to anticipate.

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

Hunter first remarked upon these toxic relations, but considered that oral infection above all else was responsible for these toxic substances, whatever they might be. Previous to this hypothesis there had been many and varied conjectures as to the etiological factors which might produce this condition. Primary malignancy of the blood itself, some malignancy of bone marrow and other hemopoietic organs, intestinal parasites running the gamut from *Bothriocephalus latus* to the simple infusoria. However the recent studies of this disease have taken a more logical turn and I believe that in the near future the riddle of so called pernicious anemia will be solved. The advent of more exhaustive research in physiological chemistry has helped to elucidate many hitherto puzzling phenomena. Especially have the research and the revelations regarding the vitamin complements necessary to normal metabolism been elucidating. Through these agencies I believe the time is not far distant when we will not be compelled to say "pernicious anemia is of unknown etiology." And by more delicate tests we will be able to recognize the condition in its incipency. Also that all of the multitudinous symptoms will be delegated to one common agent, and means for its control will be evolved.

There are several factors which compel one to discard the supposition that one set of symptoms is attributable to some other. Gastric achylia, almost always present, is frequently found when there is no anemia and has been known to exist for many years without producing any such syndrome. Neurological changes frequently precede the advent of any marked blood change. Fever is often apparent before either blood or neurological changes make their presence noted, as are tachycardia and muscular weakness. This would naturally lead one to believe that all these varied and diverse conditions are the result of one etiological factor and make their selective appearance dependent upon the susceptibility of the tissues first involved or upon the amount and virulence of the one causative agent.

That this agent must be a toxin of some nature would seem to be incontrovertible, for we have fever, tachycardia and adenopathy, enlargement of the liver and spleen invariably present. That in most of the cases this toxicity is chronic must be a conclusion that is based furthermore upon leukopenia, lymphocytosis, muscular weakness and fatty degeneration of the heart and

other muscles. However, I am certain that there does exist a type which is fulminating with a very acute onset and a rapid termination. In this type the blood picture does not reach the classical description of Addison but shows a good beginning. In this type the so called complications appear concomitant with the general dysfunction.

Ordinarily we have the first stage of prolonged toxemia. Whether or not this is due to bacterial infection is a debatable question but from the course this conclusion seems most logical. That this manufacturing plant of toxins lies within the gastro-intestinal tract seems most conclusive. As to the raw materials used in its production whether bacterial or food producing ptomaines or both, that is as yet undecided. At this point one is confronted by the question whether or not the primary infection lies within the alimentary tube itself or is located in one of the embryological diverticulae such as the liver, gallbladder, pancreas, that is, a bacterial infection as for example involving the liver and gallbladder. Thus doing, interfering with their natural functions, should remove from the intestinal tracts some of the natural secretions or in any event alter their chemical make-up to such an extent that they cease to function as the protective autolytic agent which is their province.

It is not unnatural that during intensive study of this disease surgical methods and procedures were advocated, for their beginning was in a surgical era and the general thought prevailed that all yielded before the knife. There was the spleen the obvious point of attack, always enlarged in this condition; with a physiological background as a hemopoietic organ, it was the first thought. In the beginning much was promised and there was undoubtedly a relative prolongation of life when splenectomy was performed. In the final analysis the function of the spleen being determined as that of removing debris from the blood stream, it was only natural that in compensating it should enlarge to the requirements placed upon its function. But in increase of efficiency it caused increased destruction, in that the embryonic and immature blood cells were also destroyed. Here we have the paradox of one compensating factor negating the other. So by removal of the spleen the embryonic cells thrown out by the bone marrow and other organs as a compensatory action were allowed to reach some degree of maturity. As these are the only cells available for reconstruction

there seems to be some justification for the procedure.

Very recently another surgical treatment which would seem the more logical procedure, has been advocated and used, namely, that of colostomy, whereby giving freer drainage to the lower intestinal tract and making it more accessible to thorough medication by irrigations and antiseptics, some degree of asepsis is attained. While it must be admitted that this method is of benefit in curbing the absorption of toxins and ptomaines and assists in the treatment of local bacterial infections, it is at best only palliative in that the primary cause has not been touched. It is not uncommon to find patients with chronic colitis and diverticulitis of years' standing who do not have any indication of this type of anemia, hence one must draw a conclusion that these conditions are secondary, and that the real cause must be higher in the gastro-intestinal tract, some infection the toxins of which inhibit the normal secretions or alter them to such an extent that they do not exercise their normal digestive and protective functions.

The importance of liver secretion cannot be underestimated. The bile functions both as a saponifier of fat and as an anti-autolytic agent and bactericide are well known. Also the liver is recognized as the organ of detoxification. It is the liver that bears the brunt in all toxemias, be they bacterial, ptomaine or chemical. In physiological chemistry the role of cholesterol is not thoroughly understood. Experimentally it has been demonstrated that this chemical has a marked influence upon the fragility of the red blood corpuscles. The red blood cells of animals fed upon cholesterol show a marked increase in resistance to hemolytic agents (such as histidin) over control animals. Cholesterol is a product of liver and gallbladder metabolism. That liver can produce a picture analogous to pernicious anemia was demonstrated by a patient under my care just recently. He had been treated for and diagnosed as pernicious anemia by several very competent men and by two or more well known clinical groups; in fact, had been transfused no less than seven times, once by myself. One day accidentally I stumbled upon the fact that he was a chloroform addict and had been so for years; in fact, since the advent of prohibition. I feel positive that this patient's anemia was due entirely to liver degeneration from chronic chloroform poisoning, yet he had all of the ear marks of a classical pernicious anemia.

In studying the records of pernicious anemia it is interesting to note the frequency with which a previous definite history of gallbladder and liver complaints occurs. In addition to the definite histories, there are many with indefinite symptoms of long duration which could easily be attributed to hepatic dysfunction. The gallbladder is the reservoir for concentrating cholesterol; from the gallbladder it is, in all probability, reabsorbed by the liver. Whether or not cholesterol absorption is a regulator of liver secretion, I am unable to say. It may be that it has a direct stabilizing role in the maintenance of red blood cell equilibrium or it may be that it has some effect on the production of biochemical agents bearing upon the utilization of a vitamin without which red blood regeneration does not occur. At the present time we are unable to say just what is the role of this vitamin function in blood regeneration. It may act as a stimulus or as a protective agent directly, or through better nutrition of the general cellular elements and resultant resistance against toxic substances. However, it would seem more plausible from experimentation that it acted more as a generative agent. Experimentally, animals fed diets low in vitamin develop a condition simulating pernicious anemia. This condition can be experimentally corrected by the addition of that vitamin or foods containing that vitamin through the diet. This work is being carried further by Koessler, Maurer and Loughlin and gives promise of very interesting developments. Upon these experiments are based the present popular liver diets, liver being very high in vitamin, contents also in cholesterol. This work is also being tried clinically by Minot and Murphy on a series of forty five patients and their results have been very gratifying.

The importance of diet in pernicious anemia deserves more study than hitherto has been given; in fact, it is of greatest importance. The replacing of diseased glandular tissue is impossible of accomplishment. If by diet and other means we can replace the necessary chemical constituents that are lacking and by oversupplying these elements or constituents can give rest to the overworked and over-stimulated normal tissues that are left, we have accomplished a forward step. This the so called liver diet seems to have attained. The object is primarily to supply an over-abundance of vitamin and the same time make the diet as palatable as possible. To this end Minot and Murphy have devised a special regimen as follows:

1. A minimum of one hundred and twenty grams of calf livers or beef livers a day, or as much more as possible without creating an aversion to its taste. If this becomes obnoxious as it usually does, an equal amount of lamb's kidney may be substituted, but never for any length of time.

2. A minimum of one hundred and twenty grams of beef or mutton muscle a day, and more if possible.

3. Not less than three hundred grams of vegetables selected from the one to ten carbohydrate group; especially recommended, lettuce and spinach.

4. From two hundred and fifty to five hundred grams of fruit; especially recommended, peaches, apricots, strawberries, pineapple, oranges and grape fruit.

5. About forty grams of fat derived from butter and cream in order to make the food more palatable. Animal fat and oils to be avoided. (Perhaps upon account of ptomaine.) Vegetable oils can be used.

6. An egg with a minimum of two hundred and forty grams of milk.

7. In addition to the above absolute requirements, such foods as, especially, dry toast and crusty bread, potatoes and cereals in sufficient quantity to bring the daily intake to as near three thousand calories as possible. This usually balances at about carbohydrates three hundred and forty grams, proteins one hundred and thirty grams and not more than seventy grams of fat per diet. Grossly sweet foods are prohibited but sugar is allowed sparingly. It has been my rule to have patients sip dilute hydrochloric acid in water during meals, the amount of acid required dependent upon the gastric index, as determined by Ewald test meal. In addition to the dilute acid I give from five to fifteen grains of scale pepsin with each meal. After meals I have found that five grains of inspissated bile in a capsule has been of great benefit.

At the beginning this diet is very obnoxious and if not prepared as daintily as possible becomes very nauseating. Sometimes it is advisable to begin at the minimum. However, the appetite soon improves and, as one of my patients said, "my whole day is occupied at getting enough to satisfy my appetite." Upon this regimen the improvement is almost startling and is not temporary but in my observations continues as long as the diet is followed. The blood picture approaches normal and even the rapid improvement in neurological symptoms is astonishing.

An analysis of the symptoms subjective and objective as delineated by the suffer-

ers from this disease will be too long for this paper so I think it would be interesting to discuss a few of the outstanding complaints and, at most, their correlation.

If a careful history be taken probably the most frequent and omnipresent symptom is that of a long standing gastric distress. It is surprising to note the frequency with which these symptoms are suggestive of liver and gallbladder disease, seldom if ever simulating an ulcer condition. Invariably there is found to be an achlorhydria and an apepsia. Pathologically this is explained by micro sections where we find degeneration of the peptic gland. Is this degeneration due directly to toxic influences, to vitamin and nutritional starvation, or is it the atrophy of disuse due to lack of secretory stimuli? Achlorhydria has been known to exist without pernicious anemia. Therefore it cannot be the essential deficiency in this disease. Again peptic atrophy is encountered in most tubercular infections, yet there is not superimposed the so called primary anemias as demonstrated in the blood pictures. It is more that of a secondary anemia.

That there do occur attempts at revival of gastric secretions during the remissions of pernicious anemia is a known fact. This has been proven by gastric analysis. Upon this premise it must follow that the peptic degeneration of primary anemia is due to lack of secretory stimuli through the sympathetic, either due to neuron degeneration or to lack of a chemical stimulus. However, the regeneration of neuron tissue is a very slow process and it is not compatible with the brevity in time in which some degree of peptic secretion is re-established during the so called remissions.

According to the Hunterian theory oral infection is the etiological factor in this disease. It is true that gingivitis and stomatitis are almost invariably complicating conditions. Approximately sixty per cent. of all ward patients are so afflicted yet the incidence of pernicious anemia is not parallel. It has been my experience that pernicious anemia is more prevalent per ratio among those who are ordinarily careful in the rites of oral hygiene. For this reason I am inclined to believe the oral infections are secondary and due to some extent to the lack of salivary secretion which is stimulated more or less by the antagonistic gastric reaction. That under nutrition of tissue is to some extent a factor cannot be denied.

Next in importance in the symptom complex are enteritis and colitis, sometimes cyclic, diarrhea and constipation, diarrhea predominating. It is in pernicious anemia that a greater horde

of foreign bacteria and organisms are found in the lower intestinal tract sometimes invading even the smaller intestine to its proximal end. Streptococci, bacillus Welchii, staphylococci, colon bacilli, and innumerable protozoa existing in licentiousness, unrestrained by any inhibitory agent. What is the most potent inhibitor to intestinal riot and putrefaction? Undoubtedly some one or some combination of biliary secretions play this role; this is evidenced by the more acute symptom of biliary disease including hemolysis and red corpuscles, instability concurrent with acute inflammatory processes of the gallbladder; also inordinate discomfort from gas and the feeling of gastric oppression.

Perhaps next in importance are the neurological symptoms, never acute, but insidious and subject to unaccountable remissions, both central and spinal. In my own experience, it may be rather a coincidence, almost all neurological exacerbations have been associated with the symptoms of increased gastro-intestinal symptomatology. I have attributed this to toxic absorption either bacterial or ptomaine. The toxic action of bacterial putrefaction is questionable but this must be admitted, the effect of its action upon nerve tissue is unquestionable, as evidenced by botulism and many animal diseases with their pseudoparalytic symptoms. These symptoms are not as a rule in the nonacute cases present before there is an evidence of blood changes; however, in the more acute and overwhelming toxemias death may supervene before the regenerative phenomena of blood appear.

REPORT OF CASES

C. H., age 65, first seen in October, 1924. Complained of general weakness, loss of appetite, pain in the epigastrium. Gave long history of indefinite gastric distress but being a bachelor blamed his trouble on fried food eaten in restaurants. Thirty years previously had an attack of malaria with chills and fever at which time he was jaundiced. No other attack since that time but for last ten years has been getting weaker.

About March, 1924, tongue began to get sore and he had a diarrhea which has been intermittent since that time. Has not lost much weight. Has frequent cramps and tingling in legs. Wassermann negative. Achlohydria. Faint trace of albumin, marked indicanuria, hemoglobin 42, R. B. C. 1,216,000. Blood volume 1.6 megaloblasts. Patient given hydrochloric acid and scale pepsin with five grains of inspissated bile three times a day.

January, 1925. Had gained twelve pounds, tongue clear, normal bowel movements. Free hydrochloric acid 20, combined 8, total 28. Hemoglobin 64, R. B. C. 2,900,000. Treatment continued until June, 1925, when free acid was 28 and blood count was hemoglobin 74, with red count of 2,620,000. Free of symptoms.

In October, 1925, general health was better but the blood count had not increased. January, 1926, red blood count was 4,420,000, hemoglobin of 78 and

patient feeling fine. Had gone to Europe for three months and was contemplating marriage. At this time he took up Unity (a religious cult) and stopped all treatment. Soon began to fail and died in February, 1927, a typical anemia death.

D. L., age 60, weight 124 pounds. Bedfast. Extremities marked by edema. Incontinent feces. Pain in extremities. Very short breath. Mouth sore. No teeth. Tongue red and glossy. About seven months ago, noticed he was losing weight and getting weak. For last three years had indigestion with burning sensation in stomach which was worse after eating. Fourteen years ago passed three gallstones; no attack of renal colic since then but some pain in epigastrium. Never jaundiced.

Physical Examination. Typical of pernicious anemia. No heart lesions. Some free fluid in base of chest. Blood count, hemoglobin 46, red blood corpuscles 1,280,000; megaloblasts. Wassermann 4 plus. Liver was palpable three inches below costal margin. Left lobe more enlarged than right. Urine contained marked amount of indican. Hydrochloric acid absent.

Given hydrochloric acid and scale pepsin. Inspissated bile, grains five, t. i. d. Digitalis beginning October 1, 1924.

November 23, 1924, edema gone, tongue still slightly sore, no diarrhea, no free hydrochloric acid. Hemoglobin 50, red blood corpuscles 2,304,000. Acid and bile were continued and given in 15 gr. doses. Neosalvarsan and potassium iodid administered.

December 2, 1924, blood count had dropped to 1,920,000. Weight 142 lbs.

March 19, 1925, hemoglobin 70, red blood corpuscles 3,280,000, weight 165 lbs.

September 3, 1925, hemoglobin 74, rbc. 3,796,000. Weight 169 lbs.

March 10, 1927, hemoglobin 84, rbc. 4,320,000. Feels fine. Has been at work for last two years. Appetite good. Placed on liver diet.

1002 Medical Arts Building.

THE GENERAL TREATMENT OF FRACTURES*

CHAS. E. HYNDMAN, M.D.

ST. LOUIS

In the time allotted to this paper it is impossible to cover the whole subject and therefore I shall mention only what I believe to be the most satisfactory and modern principles governing the treatment of fractures in general.

In the first place we must realize that the treatment of fractures is a hazardous undertaking and that the results are directly dependent upon the judgment and skill of the physician in charge of that particular case. At the outset we are confronted with four outstanding facts:

First, that fractures cannot be reduced with anatomical precision.

Second, that fragments cannot always be perfectly replaced from an X-ray standpoint.

Third, that a fracture is a mechanical

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problem, each an individual case presenting its own peculiar conditions and requiring individual study and special treatment.

Fourth, that while every effort should be made to restore as nearly as possible the perfect anatomical relation, our main purpose is to restore perfect function of the injured part in the shortest time with the least deformity and discomfort to the patient.

As to the first two points we may comfort ourselves for our inability to obtain perfect anatomical precision in all cases by the knowledge that perfect anatomical replacement is not necessary to firm union, perfect function and imperceptible deformity; furthermore, that those fractures which are reduced most nearly to anatomical perfection produce less callus, unite slowly and are more apt to recur at the same site. This is particularly true of transverse fractures.

Intelligent treatment of fractures cannot be learned entirely from a book and no set system or appliance is adaptable to every case. We must rely upon common sense, mechanical sense, and the skill of touch which comes only by actual personal experience. While our problem is primarily the repair of a mechanical dearrangement, we are dealing with living material and therefore at least a working knowledge of the anatomy of the surrounding tissues is absolutely essential. Each case must be considered individually and the simplest and best means available be adopted. There are a few general rules in the treatment of any fracture which, if followed, will give the best results. These rules are:

1. Wherever possible, the simplest, non-operative procedure should be adopted.

2. Wherever practicable, immediate reduction of the fragments and complete immobilization of the parts should be effected with the least possible manipulation. There are several reasons for this important rule, viz: The displacement is apt to increase, the sharp ends of the bone may injure adjacent blood vessels and other tissues thus causing severe hemorrhage, swelling, distortion, and extreme pain and shock. Rough or unnecessary manipulation besides producing these conditions also greatly increases the hazard of fat embolism. Fortunately, emboli are not common but they may occur in the simplest fracture of the long bones as well as in the badly comminuted cases. Embolus was the cause of death in two of my cases of fracture of the tibia although the manipulation in both was so gentle that no anesthetic was re-

quired. I may never see another case, but two are enough to convince me that death from embolus can and does occur following fracture.

3. It is impossible to reduce fractures by the pressure of a pad applied over the ends of the displaced fragments; this only produces injury; such as swelling and even necrosis of the soft tissues, or paralysis. The deformity must be completely reduced manually or by means of extension or traction; and when the proper alignment has been obtained the entire bone must be held in position by means of suitable splints or appliances. Adhesive plaster, calipers or Steinman pins furnish adequate means of traction. Splints should rest upon fixed bony points above and below the break; if the break be close to two movable joints both joints should be immobilized. Immobilization must be immobilization and not simply the application of a loose splint that will move about with the motion of the soft parts. If plaster of Paris is to be used it is much safer to use molded plaster splints first and circular casts later when the swelling and the danger of constriction and blisters have subsided. Very serious complications have arisen in the early use of plaster casts even in the hands of the most skillful and experienced surgeons. Wherever possible the fingers and toes should be left free and early movement begun.

4. The presence of severe and continued pain after reduction and immobilization should always be investigated. After proper reduction and complete immobilization there is usually very little pain.

5. The information given by the X-ray is so valuable that I believe we should avail ourselves of its aid in every case. Even though it may be a case of simple fracture and we are satisfied with the reduction and position, the X-ray gives accurate knowledge of the nature and position of the fragments and enables us to estimate the time of fixation more intelligently. I believe an X-ray picture should be made both before and after reduction wherever possible, but this is not always feasible without considerable delay. In that event we should reduce the deformity at once and later check up the result with the fluroscope or skiagram. If on account of swelling, the nature of the fracture, or the condition of the surrounding parts, immediate reduction is not practicable, we should immobilize, take an X-ray picture and reduce at a more practical time. I always insist upon a skiagram. The fluroscope is of course useful but it is not an accurate or permanent record for reliable

reference at a later time. A single view picture is of little value. It should always be taken from at least two planes; otherwise we will very frequently be misled.

6. The period of time of immobilization must vary with the age and condition of the patient and the nature and location of the fracture. Best results are obtained by early motion whenever possible. Early and frequent removal of splints with massage of the soft parts and gentle motion, both active and passive, will shorten convalescence and insure rapid restoration of function. At this stage we must not depend upon the X-ray entirely because callus formation is often inaccurately shown by the fluoroscope or even a skiagram.

7. Compound fractures present the added danger of infection, not only of septic infection but of tetanus. Immediate, thorough cleansing and application of strong antiseptics should be made. In addition the opening should be enlarged so as to provide for adequate drainage and irrigation with Dakin's solution. Although it may not be necessary in every case, and I know that it is not the general practice in many localities, I firmly believe that a prophylactic injection of antitetanic serum should be given in every case of compound fracture in addition to thorough cleansing and irrigation with Dakin's solution. I have made this a routine procedure for many years without a case of tetanus in my own practice. That it does occur when such strict routine has not been followed is common knowledge.

8. Spontaneous or pathological fractures, being secondary to malignancy or some general bone disease, with the exception of a few rare cases, are not amenable to treatment and must be considered from the standpoint of rendering the greatest comfort to the patient.

9. Upon the question of operative treatment in general and the special operative procedures employed, there will always be considerable difference of opinion, depending upon individual experiences. When we realize that only a very small percentage of fractures are seen by surgeons equipped to use operative treatment, and that a fracture is always an emergency occurring usually under unfavorable conditions, I believe the best results will be obtained if operative procedures are employed only when we are convinced that the closed method cannot insure a good functional result. The open treatment is a hazardous procedure and should be attempted only under the best of conditions.

There are a few points about operative treatment which if observed will give a high percentage of good results, namely: (1) Unless it is imperative to operate immediately, wait a few days for the injury to the soft parts to subside, thus lessening the chance of infection. (2) Only those portions of bone which are entirely separated from the periosteum and blood supply should be removed. (3) Badly comminuted fractures are not of themselves an indication for operation if a reasonable alignment can be obtained. Callus forms quickly and in greater abundance and strength in these cases if the part can be completely immobilized. (4) Metal bone plates seem to give uniformly better results than intermedullary bone pegs, wires or bands. Plates are put in with the intention of removal when their function has been performed. Bone grafts should be reserved for only those cases where there is considerable loss of bone tissue and they can be used to greater advantage at a later stage than in acute fractures. Impacted fractures where the alignment is good, with the possible exception of the Collès', usually do better if left alone than if broken up.

I stated in the beginning that the treatment of fractures is a hazardous undertaking. Not the least of the hazards is the prognosis and therefore this should be very guarded. The end result of a fracture is either a source of pride and gratification to the physician or an everlasting eyesore which he constantly meets in his daily practice; or it may be the grounds of a malpractice suit even from the most unexpected source. We may make perfect reductions and approximations but the power to cause bone growth is beyond our control, and in this connection we should not overlook the value of the Wassermann reaction. Flowery and cocksure promises frequently lead to grief and disappointment. If we are reasonably sure there will be some deformity I believe we should so advise the patient at once. If there is a possibility of nonunion or if operative measures seem necessary later on the patient should be informed and a mutual understanding of the situation thus consummated.

Last but not least in importance is the fact that what we are accustomed to calling sprains should always be treated as fractures until proven otherwise.

603 Humboldt Bldg.

DISCUSSION

DR. EDWARD M. MIERS, Kansas City: I was greatly impressed with the doctor's good philosophy about the alignment of the fractures, but I am won-

dering if many fractures are not manipulated more often because some of them do get into the courts. Even though the function is perfect, if the ends of the bone are not directly in coaptation a lawyer undoubtedly could build quite a case on the fact that the fragments were not accurately in coaptation. I believe that the doctors in general should adopt the principle that if the fracture line is good and the function is good we should not pay much attention to the accuracy of fragment coaptation.

I don't know whether I understood the essayist correctly about the splints but he said that as soon as the function of the metal splint had been served, so far as the union of the bone was concerned, it should be removed. I don't think he meant that it should be removed unless it was producing symptoms because I have known many bone splints, metal splints and bands to have stayed in the tissues for years and cause no symptoms. I am wondering if the doctor meant that just as a matter of routine or of prophylaxis or am I in error as to the meaning he wished to convey?

DR. FRANCIS L. REDER, St. Louis: The cursory attitude that Dr. Hyndman took in giving his expression relative to the treatment of fractures covers about all that there is to fractures in general; he has however emphasized certain points that I know have impressed those who have been interested in what he has had to say.

The treatment of fractures at the present day resolves itself into two methods, the closed and the open. Like all new advances in surgery, when the open method was advocated, years back now, most of the surgeons, yet not so much the surgeons as the operators, rushed in and performed the open method. Many of the results were most disastrous. If you look over the records of the last five years and compare them to the records of ten or fifteen years previous you will find that not so many open operations have been performed. Why? Dr. Hyndman has given us to a certain extent the reason. Nonunions have been more frequent, nonunions on account of the severity of the fixation. It is quite necessary to have the fragments friction to a certain extent that the stimulus to callus formation may not be altogether lost.

The doctor spoke most advisedly in regard to deformity. If you have an intelligent patient and can explain to him that with a slight deformity of the bone as shown by the X-ray the functional result of his limb, be it arm or leg, is going to be good, it would be advisable to let the deformity alone; don't do any cutting in an endeavor to straighten the bone hoping to obtain a perfect anatomical alignment. It will not do much good and the open operation is not free from hazards. I am glad that the doctor used the word hazard; it is a good word to use in connection with bone surgery in fractures. Bone surgery is entirely different surgery than abdominal surgery.

Fractures of both bones of the forearm invariably are difficult to reduce. I have had a number of them. If I am able to get a good apposition of the radius and a fairly good apposition of the ulna I am content with the situation because I feel quite confident of a good functional result; in any event I would give it preference over an open operation. If you are confident of a good functional result (and the doctor has emphasized the fact) let your deformity, if it is not too great, alone. I don't wish to be misunderstood in this deformity matter; a deformity is a serious matter but a deformity that will not delay union and will not interfere with a good

functional result should not, in my judgment, invite an open operation.

DR. E. C. PEELOR, Clinton: I just want to emphasize a point in regard to wrist fractures and in a few words report a case I had last year. In cranking his Ford truck a man got the usual fracture and a compound dislocation of the ulna. We reduced the fracture apparently very nicely and put it in splints. X-ray showed incomplete apposition. In spite of my advice he and his friend "went up in the air" about it. He evidently drifted into a hospital where extensive manipulations were made to reduce that fracture. The result was that the man lost six or eight months' time and still has a dislocation, although after a year he has fairly useful arm.

DR. C. E. HYNDMAN, St. Louis, in closing: There are one or two points I wish to mention. In the beginning of the paper, I tried to emphasize exactly what you are all thinking about, namely, that you cannot make fractures X-ray perfect nor can you make them anatomically perfect. When you go into court, sometimes the best functional result looks the worst on an X-ray plate and to the jury. If you are supported by men of standing in your community you will have no trouble convincing a jury that it is not essential to good results for the X-ray to show perfect apposition of the fracture ends.

Dr. Miers did understand my statement about plates correctly. That is just what I meant to say. This is a general paper on fractures and covers all sorts of conditions of fracture. If operative procedure is to be carried out, and performed by different men of varying ability and under all sorts of circumstances, then perhaps the plate is the most satisfactory in the long run. A plate is nothing but an internal splint; it is a foreign body; it will interfere to a certain extent with bone formation, and it will act sooner or later as a foreign body. I have some plates running around that I can't get, and I know of a lot of other plates that are still in position after eight or ten years, but sooner or later these plates will have to come out. If they are taken out when your tissue is in good condition after your bone has healed, you will have less trouble.

PENETRATING WOUNDS OF THE CHEST*

THOMAS G. ORR, M.D.

KANSAS CITY, MO.

By far the greatest number of chest injuries are minor and require little treatment besides rest and immobilization. Certain severe crushing injuries of the thorax, producing what is clinically known as traumatic asphyxia, may prove serious. Here the injury is probably chiefly to the mediastinal vessels which causes grave disturbance of circulation. Penetrating wounds of the chest are always serious or potentially serious and are the type of thoracic injury that should receive our interested attention.

To properly understand the treatment of thoracic injuries a general knowledge of the physiology of the chest is essential. When a

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patient receives a penetrating wound in this part of the body the first thing a practical surgeon wishes to know is what organs are injured and what happens as a result of an opening made into the chest cavity. In other words, what are the dangers of a traumatic pneumothorax?

Pressure between the lung and chest wall is less than atmospheric or is negative. This negative pressure varies normally with inspiration and expiration. Any wound connecting one or both pleural cavities with the outside disturbs the normal pressure equilibrium and may menace life. It is impossible voluntarily to breathe all air out of the lungs. That remaining after such an effort is called the residual air. Air taken into the lungs by ordinary breathing is called the tidal air. If a forcible inspiration is made at the end of an ordinary inspiration the quantity of air inhaled is called the complemental air. The quantity of air forcibly exhaled after ordinary expiration is known as the supplemental air. The sum of the tidal air, complemental air and the supplemental air, or the total quantity of air in cubic centimeters which an individual is capable of inhaling and exhaling, is called the vital capacity. Vital capacity is very important because upon this depends to a very great extent a patient's ability to tolerate perforating wounds of the pleural cavity. A patient with a lowered vital capacity has diminished power of compensation in case of lung collapse and therefore offers a poor prognosis.

The ancients knew that traumatic pneumothorax was dangerous and that opinion still quite properly prevails although recent work by Graham and others during and since the World War has modified the fear of chest wounds to some extent. In 1918, Graham and Bell¹ noted that the thorax for practical purposes may be considered one cavity, since alteration of pressure in one pleural space will show a change of pressure in the other. These workers observed that a double pneumothorax in animals is compatible with life providing the openings into the pleural spaces are not too large. They further found that a unilateral pneumothorax will result in death if the opening be made sufficiently large. A large opening permits more air to enter and causes greater encroachment upon the lungs and mediastinum.

The two principal factors to consider in estimating the prognosis in penetrating wounds of the chest are, the size of the opening and the vital capacity of the individual. The higher the vital capacity the larger the opening that can be tolerated.

What happens to the mediastinum when an

open pneumothorax is made? Considerable dispute has arisen as to just what occurs but it is generally considered that the mediastinum has a to and fro movement or fluttering and therefore the disturbance of intrathoracic pressure is not confined to one lung but involves both.

If so much disturbance of thoracic equilibrium results with an open pneumothorax it is quite obvious that a so called "sucking wound" of the chest should be closed as soon as possible to restore this equilibrium. The reason why there is such a high mortality in operation upon early empyema is because the vital capacity of the patient is low, due to the preceding pneumonia, and because the opening made in the chest wall is a "sucking wound" as a result of the lack of lung fixation by walling off the pleural exudate.

In addition to the effect of pneumothorax upon respiration, the aspirating power of the heart is disturbed by the change in intrathoracic pressure and stasis results in the venous system. There is also a rapid loss of heat and great danger of infection. Heat loss in open pneumothorax is probably greater than in extensive laparotomy.

SYMPTOMS

The symptoms of penetrating wounds of the chest are dyspnea, irregular respirations, weak pulse and, if very serious, cyanosis and collapse. Extensive subcutaneous emphysema may develop but is of little prognostic importance. There may be hemothysis and gradually developing hemothorax. Puncture wounds by small bullets frequently do not cause grave symptoms. They are serious in proportion to the damage done to the chest wall unless the heart, large vessels, or spine are involved. Punctured lung tissue contracts and heals rapidly.

Almost immediate death may result from open wounds of the thorax due to disturbance of pressure equilibrium. Other causes of death are direct injury of vital structures with hemorrhage. A patient may die rather quickly following a wound in a large bronchus permitting the blood to flow in and produce suffocation.

If the dome of the diaphragm is wounded there may be pain radiating to the shoulder region on the same side through the phrenic and cervical nerves. Hiccough and vomiting are also evidence of diaphragmatic injury. Injury to the diaphragm may mean penetration of the abdominal cavity with the danger of wounded organs therein.

COMPLICATIONS

Complications of penetrating wounds of the thoracic cavity may be fractured ribs, hemo-

¹ *Am. J. M.S.C.* 156:839 (December) 1918.

thorax, pyothorax, and pneumothorax. Fractured ribs are important if extensive or if they penetrate the lung, pericardium or mediastinum. Small wounds such as those usually made by a bullet or knife cause relatively unimportant rib injury. Hemothorax is practically a constant complication of penetrating wounds of the chest and may require special treatment if extensive. The bleeding is chiefly from the injured vessels in the chest wall and not from the lung tissue. This is especially true with bullet wounds and other small punctures. Lung tissue quickly collapses, closing small openings which minimizes bleeding. Extensive lung lacerations from severe crushing injuries of the chest wall or large foreign bodies often bleed profusely and require surgical treatment. Bleeding into a pleural cavity, if extensive, may produce considerable respiratory embarrassment.

Pyothorax is commonly the result of infection introduced with the penetrating object or by bits of clothing carried into the chest. Ill advised probing or careless examination of the wound may also result in infection. Sucking wounds are likely to carry infection into the pleural cavity resulting in suppuration.

Pneumothorax arises either from air entering through the chest wall or from the injured lung. If the opening in the chest wall is large enough a "sucking wound" may be established with an audible to and fro passage of air. The pressure of a small quantity of air in the pleural cavity may be of little significance and will readily be absorbed. On the other hand death may follow open pneumothorax with its lung collapse, flapping mediastinum and disturbed pressure in the other pleural space.

Wounds of the heart are usually fatal. However, many cases of successful heart suture have been reported and such treatment should always be considered. Incised or stab wounds are more easily closed by suture than bullet wounds.

TREATMENT

Penetrating wounds of the thorax should always be considered serious and the danger of sudden death be the first consideration. If air is passing freely in and out of the chest through a sucking wound the opening should be closed at once. In an emergency this may be done with a moist cloth, a portion of dental rubber or rubber glove. A portion of rubber placed over an open wound may act as a valve allowing air to escape and preventing its entrance. Surgical closure should follow as promptly as possible. If bleeding is profuse or a large foreign body has entered the lung a surgical exploration under proper conditions is indicated. Exploration is not justifiable in many of the

through and through bullet wounds of the chest since conservative treatment has proven satisfactory in such cases unless complications arise.

If exploration of the chest is contemplated the choice of anesthetic is most important. It has been quite well established that no elaborate apparatus, such as the Sauerbruch negative pressure chamber, is necessary for chest surgery. The ordinary gas-oxygen or ethylene gas machine, properly handled by a skilled anesthetist, is sufficient to maintain necessary pressure within the lung to do chest surgery with a minimum of danger. Before a chest wound is closed the lung should be inflated by oxygen pressure to reduce the pneumothorax as much as possible. While operating the lung may be drawn into the wound as an emergency measure to avoid the entrance of air.

Hemothorax often requires no treatment except rest and immobilization. If a large quantity of blood has collected in the pleural cavity it may relieve pressure and hasten recovery to remove some of it with an aspirating needle. If this is done the possibility of stimulating further bleeding or introducing infection must be seriously considered.

Pyothorax should be treated as empyema with proper drainage by resection of rib and later irrigation with Dakin's solution.

The air of a closed pneumothorax is usually quite rapidly absorbed and requires no special treatment.

Chest injuries in general should be treated by absolute rest. Rest avoids increased hemorrhage and shock, decreases the likelihood of infection and makes the patient more comfortable.

PROGNOSIS

Penetrating wounds of the chest as a whole have a rather high mortality. It is interesting that statistics have been presented showing that bullet wounds of the chest in the Civil War had a death rate of 62.5 per cent. and in the South African War 13.4 to 16.4 per cent. The difference in these percentages is probably due to the type of bullet used and in the South African War to a better knowledge of asepsis and treatment. Moynihan in his "American Addresses" has estimated the mortality of chest wounds of the World War from 10 to 30 per cent.

CONCLUSIONS

All penetrating wounds of the chest should be considered serious and treated as emergencies.

Observations made during the recent war and modern studies of chest wounds have shown that surgery of the chest is less to be feared than was previously believed.

Exploratory thoracotomy should be frequently done in the more extensive chest injuries. Before making a large opening, into a chest proper apparatus should be available for increasing the intrapulmonic pressure during the operation.

802 medical Arts Building.

DISCUSSION

DR. W. T. ELAM, St. Joseph: When I consented to open the discussion on traumatic injuries to the chest, I was given to understand that I would be permitted to review the subject and have a digest of the paper. However, Dr. Orr has left little to be said, it seems to me. The main points in the paper are the proper diagnosis of the condition and what is liable to take place. These are determined somewhat by the location of the wound in the chest as well as the size and the character of the wound. The main points to be emphasized are that immobilization, quieting the patient and quieting the circulation, with the use of narcotics if necessary, are indicated in chest wounds the same as in joint wounds.

When hemothorax exists, if there is not profound collapse, an exploratory thoracotomy is contraindicated. If the patient is progressing to a point of extreme collapse an exploratory thoracotomy is indicated.

In wounds of the chest we have not only the chest wall involved, but the large vessels, the heart, the pericardium, the lungs, and other structures which may require visualization, examination, and treatment, or some surgical measure to control hemorrhage or repair conditions.

The ordinary means of diagnosis may be to some extent helped by the use of X-ray, especially when spiculae of bones are sticking into the lungs. Ordinarily we have to adjust our first aid treatment to the condition as we find it. Later we may have to change our method of treatment.

With some experience gained on the other side in traumatic and in gunshot wounds of the chest and other traumatic injuries, I am led to the conclusion, as Dr. Orr has seemed to decide, that the average case of gunshot wound is not followed by suppuration. If, however, there has been a certain amount of clothing or other foreign substance carried into the wound you may expect considerable disturbance even though there be no infection. In all instances place the patient at rest and immobilize; where pus is present evacuate the pus; where a sucking wound is present close it completely, or use a sponge, or a rubber glove or something to take care of the situation, and treat symptomatically. That is about all you can do unless you take extreme measures which I don't think are indicated unless there is evidence of deepening shock.

DIFFUSE PERITONITIS AND ITS MANAGEMENT

OLA PUTMAN, M.D.

MARCELINE, MO.

Few complications in surgical cases cause more anxiety to the surgeon than the onset of general or diffuse peritonitis. The gravity of this condition is recognized equally by the laity

and the profession. The management of these desperate cases has been wonderfully improved in the past twenty years so that many recover now who would have succumbed in the earlier period. The number of cases developing diffuse peritonitis is less than it formerly was, due to better operative technique, more adequate drainage, and selecting a more rational time for operation; nevertheless, every surgeon is at times confronted with the management of these cases. It takes very little skill to operate for the ordinary abdominal case, but it requires resourcefulness, patience, and confidence in one's system of management successfully to tide a patient over a diffuse peritonitis.

The foundation for the effectual treatment of peritonitis was laid by Dr. Murphy when he advocated the withholding of food and water by mouth, the use of the drip that has been popularized and immortalized under the term Murphy drip and the administration of morphin. These three principles are now almost universally used and accepted by the profession. There are, however, several divergencies so that the full management is poorly understood and the limits to which they can be carried are not clearly recognized. A blind faith in the efficacy of the three will meet with sad disappointment.

It is in order to define the limits of this treatment, and to introduce one other adjunct, that this article is written. The reason for each procedure should be clearly understood. Withholding food and water by mouth is for the purpose of diminishing peristalsis and vomiting. The use of morphin is to relieve pain, diminish peristalsis and to induce rest. The proctoclysis is to supply fluids and nourishment to the body, and to counteract acidosis and toxemia. Not every case of peritonitis will recover, even with the intelligent use of these three methods. Withholding food and water by mouth over a long period of time may starve the patient, for it is at times difficult to tell how much fluid has been absorbed from the drip and how much nourishment utilized. The tongue is the best guide to the amount of fluid being absorbed; a dry tongue usually means that fluid is not being absorbed in sufficient amount. The use of morphin can be easily pushed too far, or its sudden withdrawal may result in delirium and collapse.

While appendicitis is the cause of most cases of peritonitis, the following treatment is applicable to any acute peritonitis. The terms, diffuse and general, are at best poorly descriptive, as we have no means of determining the exact extent of the so called diffuse or general peritonitis. The term is here used to signify a

peritonitis which is not localized or walled off but involves a large area of peritoneal surface.

The symptoms of general peritonitis are so well understood and easily recognized that only the onset will be described in detail. The usual beginning symptoms are a rise of temperature and pulse rate, leucocytosis, nausea and vomiting. Rigidity of the abdomen soon follows, and later distention.

Treatment should be started at once. The underlying principle is rest. Morphine should be given first before the drip is started, and the patient should be narcotized as quickly as safety will permit. To an adult, a quarter grain is given hypodermically and repeated in two hours if necessary to narcotize. It is continued every four hours while needed to control pain, peristalsis, or restlessness. After the patient is sufficiently narcotized the time interval should be lengthened to six or eight hours. Food and water by mouth are withheld. Proctoclysis is started about one hour after the first dose of morphine and continued as long as it is retained. If expelled, the rectal tube should be removed for one hour. The composition of the solution is important and should be changed to meet or anticipate the condition present or expected. Sugar solution or plain water is used in the beginning and may be continued without change for 24 to 48 hours. It should then be changed to a solution of sodium bicarbonate in normal saline, as Dr. Haddon has shown the value of salt solution in obstruction of the bowels. A 2 per cent. solution of salt has a strong tendency to overcome reverse peristalsis and thus control vomiting. It is to be remembered that nothing is to be put into the stomach until the peritonitis is actually subsiding, and the use of a 2 per cent. salt solution is not to be instituted the first few days of peritonitis. It is the exceptional case that will need it. There is always a question of how much fluid is actually absorbed, therefore too much dependence cannot be placed on the drip method alone to furnish nourishment. At this point comes one other advance in the management of these cases. Ordinarily, after withholding nourishment by mouth for 48 hours dextrose should be used intravenously, if for no other reason than to furnish nourishment. Usually, 20 cc. of a 50 per cent. solution is given each 24 hours. It is an easy matter to estimate closely the amount of dextrose utilized. If the urine is examined for sugar about 3 hours after the administration of dextrose, and sugar is found then the amount introduced was more than could be utilized. The opposite holds for increasing the dextrose.

The condition of the patient at the end of 48 to 72 hours may be practically unchanged;

the temperature may range from 99.6 F. to 103 F. and the pulse rate from 100 to 130. The amount of distention of the abdomen is a better guide to the patient's actual condition. As distention increases respirations also increase. Morphine should not be pushed too far in the attempt to decrease the pulse and respiratory rate when the rise of these is due to interference with the movement of the diaphragm. The term distention should be understood to mean the volume of gas in the intestines. It should be remembered that gases are compressible and that with a rigid abdominal wall there can be distention of intestines without ballooning of the abdomen and therefore interference with the movement of the diaphragm will result. The tired out muscles of the abdomen become lax and allow ballooning, because of continued intra-abdominal pressure. A duodenal tube should be passed into the stomach and the stomach emptied. Very little gas will escape and it is futile to attempt entering the duodenum with the tube. If the stomach contains only a small amount of fluid the stomach tube should not be used oftener than once each day. However, if the stomach contains a large amount of fluid this should be aspirated with the duodenal tube every 4 or 6 hours. Fluids are not used to wash out the stomach unless there is evidence of reverse peristalsis and this never occurs in severe peritonitis though it sometimes does occur when the peritonitis is subsiding; the use of the rectal tube is then the exciting cause. When reverse peristalsis occurs the drip should be discontinued, the stomach contents removed with the duodenal tube, and 100 to 150 cc. of a 2 per cent. salt solution left in the stomach. This should be repeated every 4 or 6 hours. Since reverse peristalsis is better than no peristalsis it may be considered a favorable sign. Some desperately ill cases of peritonitis will not respond to any of the above measures.

There are two main causes of death in peritonitis,—the toxins absorbed, and interference with respiration through pressure upon the diaphragm from the distended intestines, the two forming a vicious cycle. Up to the present time we have no good method of combating toxemia and at this time the temptation comes to use mercurochrome. Its use has been advocated for about every condition or disease caused by pathogenic bacteria. Peritonitis, falling within that scope, has been treated with the intravenous use of this drug but here it is contra-indicated. One should remember that while the condition is extreme nothing should be done to throw any added strain upon the heart. The reaction that follows the intra-

venous use of mercurochrome is usually so severe that the patient might not withstand this added shock. The severely sick case of peritonitis is so delicately balanced between life and death that only the most conservative measures should be used. Fortunately, if the distention can be relieved, nature will in some cases take care of the toxemia. The relief of the distention therefore becomes imperative if death from pressure upon the diaphragm is to be avoided. Many years of sad experience have taught that the use of castor oil, enemas, and pituitrin is worse than useless. Enterostomy has been tried and found successful in some cases. The objection to this procedure is that it is a severe measure; to open the abdomen, puncture the gut by cautery, and purse-string a tube into the opening is a major operation. This will, of course, drain a section of the gut but it may be only a small section between two kinks. It was found, in successful cases where this was done, that there was no leakage upon removing the tube.

The method of relieving distention about to be described, is rapid, painless and harmless as it adds no shock. It can be repeated as often as necessary and in whatever portion of the abdomen one chooses. The procedure is as old as history, having been used by our ancestors centuries ago to relieve foundered stock. Having passed through this stage of animal experimentation it was used by physicians of past generations, at times with success. This refers to the use of a trocar inserted into the gut. More than 50 years ago my father, Dr. B. B. Putman, plunged an ordinary abdominal trocar into the badly distended abdomen of a boy, who probably had appendicitis and the boy recovered.

The procedure is carried out in the following manner: The trocar, with the stilet, should be about the size of a spinal puncture needle. Usually, a site is chosen in the median line above the umbilicus so that the transverse colon will probably be punctured. The trocar should be sharp. The skin is frozen slightly and nicked with a knife and the trocar pushed slowly through the peritoneum. It is then quickly pushed farther and the stilet withdrawn. If the gut is punctured, gas will escape freely and the patient will experience immediate relief. Adhesive tape is wrapped around the trocar next to the skin to prevent the trocar from working down. After gas escapes, a short piece of rubber tubing is connected with the trocar and to an aspirating syringe and as much fecal fluid removed as possible. If good results are obtained with the trocar, it is left in place for 12 to 24 hours and protected by a small cardboard box inverted over it. The

stilet should be introduced every 30 minutes or oftener to prevent clogging. If only a small amount of gas escapes from the trocar, another site is chosen and another puncture made, either in the median line or in either inguinal region. If upon removal of the trocar distention again increases, the trocar is replaced, preferably in the same puncture hole, as adhesions will have formed around the puncture into the gut. In order to favor the formation of adhesions between the punctured gut and the abdominal wall, after the trocar first punctures the gut, it is pulled up slightly to make contact between the gut and the anterior peritoneal wall. There seems to be practically no danger of leakage from the punctured gut upon removal of the trocar. If necessary, the use of the trocar can be continued for several days. One patient who eventually recovered was subjected to almost continuous use of a trocar in different parts of the abdomen for eight days. This procedure is not confined to post-operative cases. It may be used advantageously in cases of peritonitis following rupture of the appendix before operation. In these cases and in cases of peritonitis from other causes, gas will sometimes collect in the abdominal cavity and the use of the trocar here is attended with no danger whatever as it does not enter the intestine. A case of peritonitis that develops before operation has a much better chance to localize if a trocar is used.

One other procedure of definite value can be carried out in prolonged cases and that is blood transfusion, though it is indeed the exceptional case that will require it. Transfusion is not indicated before three weeks and then only if the patient is anaemic. Most cases will have died or recovered before this.

A word about prognosis. Delirium in peritonitis is almost a fatal symptom, but it should not be confused with the delirium that sometimes follows the withdrawal of morphin.

SUMMARY

The cardinal points in the treatment of general peritonitis are: (1) Withholding of food and water by mouth; (2) supplying the system with fluids in other ways; (3) morphin in proper amounts; (4) dextrose intravenously to furnish nourishment and to combat acidosis; (5) use of the duodenal tube; (6) the use of a trocar into the intestine to reduce distention and to relieve pressure upon the diaphragm; (7) the use of mercurochrome-220 is condemned; (8) blood transfusion only in prolonged cases and then only when positively indicated.

THERAPY*

M. L. SANDS, M.D.

WARSAW, MO.

The mission of medicine is to relieve pain and suffering, restore health and save and prolong life. It accomplishes this mission through therapy or treatment. In its broader sense, therapy is any measure taken for the relief or cure of human ailments. The surgeon's knife is as truly a therapeutic measure as is the use of quinine for malaria and antitoxin for diphtheria.

The ailing man comes to the doctor for one purpose only, i.e., to get relief from his ailment, whether it be real or imaginary, and he expects it to come through treatment or therapy. The first inquiry of a doctor is, what is the matter with this patient, or to make the diagnosis. Rational, intelligent, effective treatment is based on correct diagnosis. Very often the most difficult part of a case is to make the diagnosis.

Dr. Rowan, quoted in the *Lancet* and basing his statement on necropsies and laboratory findings, says that only 38 per cent. of diagnoses are correct. The percentage rate of correct diagnoses in institutional practice is somewhat higher than in private practice. In 660 cases in private practice only 23.48 per cent. of diagnoses were correct. In 374 cases in institutional practice a correct diagnosis was made in 38.21 per cent. According to this statement nearly two thirds of the diagnoses are incorrect.

What does this mean? Since correct and efficient treatment is based on correct diagnosis, is this shortcoming of medicine the explanation of the prevalence of charlatanry and the nostrum evil! What is the cause of this lack of diagnostic skill in our profession? It seems to me that placing more emphasis on clinical diagnosis in our medical colleges and less on laboratory methods would help the situation. Far be it from me to attempt to detract one iota from the value of the laboratory as an aid to diagnosis. But the laboratory has its limitations and undue stress placed upon laboratory findings in quest of pathology and diagnosis is prone to make the laboratory devotee a therapeutic nihilist.

Is the therapeutic nihilism of some of our medical writers a factor favoring charlatanry and the nostrum evil? True, the laboratory often makes possible very brilliant diagnoses of obscure conditions. But a diagnosis however brilliant when made the goal and not followed by treatment holds little of interest or value for the patient. If not followed by treatment it is therapeutic nihilism—and therapeutic

nihilism is the hope and the opportunity of the charlatan and the nostrum vender. As stated above the *effort* of medicine is to relieve pain and suffering and restore health; the *hope* of medicine is to find a specific remedy for all human ailments; the *ideal* of medicine is to find a specific preventive—immunity—for all human ills. This will be the death knell of charlatanry and the nostrum evil.

Progressive medicine is ever seeking better and more efficient therapy. In the past, accident and tradition gave us many of our remedies. Today we go to the laboratory for our therapeutic resources and to the laboratory we look for the specifics that progressive medicine is ever seeking. Our county medical societies meet at stated intervals; our various state medical associations and the American Medical Association meet in annual conventions for the sole purpose of searching for an improved, a better and a more efficient therapy by an exchange of views and discussion of experience. The goal is a better therapy.

Of therapy there are a number of forms; chemotherapy, the use of chemical and vegetable substances as drugs, is probably the oldest form of rational therapy; electrotherapy, the use of electricity as a curative agent; physiotherapy, the use of the forces of nature, such as heliotherapy, the exposure of the body to the direct rays of the sun; balneotherapy, the use of baths; climatotherapy; vaccine and serotherapy (which I believe will in the future give us most of our specifics); organotherapy, the use of the extracts of the ductless glands, which though of rather recent development has already produced voluminous literature. Among its exponents are Bandler, of New York, and Sajous, of Philadelphia. While yet rather in its swaddling cloths I anticipate a future for this form of therapy. To observe the change in appearance of the chubby little imbecile or cretin to the intelligent and physically well formed child is little short of the marvelous and need only be seen to convince the most skeptical of the value of at least one of the internal secretions—the thyroid—and the vital part it plays in the metabolism of growth and development. So important is this branch of therapy considered that it has been dignified by a new terminology—endocrinology.

And finally we come to psychotherapy, a form of therapy every son of Esculapius practices to the extent of his ability, yet lends itself readily to charlatanism. The personality of the physician appeals to the subconscious mind of the ailing man and so inspires him with a hopeful frame of mind which buoys him up and acts as a stimulant to the mind, to exert its influence over the body. Hope is a powerful stimulant, sometimes life saving. The mis-

*Read before the Pettis County Medical Society, Sedalia, April 5, 1926.

use of psychotherapy prolongs sickness, spreads infection and causes loss of life by denying the application of remedial measures in curable diseases.

Progressive medicine is ever searching for specifics with which to conquer human ailments and it has found some. The once dreaded smallpox has been conquered by vaccination, introduced in 1798 by Edward Jenner. Diphtheria has likewise been conquered both by prevention and cure. Tetanus has been conquered by prevention and in a measure by cure. Typhoid fever has likewise been conquered—not yet by specific cure but through prevention by timely vaccination. During the Spanish-American War typhoid was the scourge of our army. During the late World War, with all the millions of men engaged in combat, this malady was a negligible factor owing to the vaccination of all enlisted men. For syphilis we have mercury, the iodides, arsphenamin and neoarsphenamin. For hydrophobia, thanks to the labors and discovery of the immortal Pasteur, we have the antirabic treatment with the dried spinal cord of the inoculated rabbit, a specific preventive but not a curative remedy. For that ancient and fatal malady, leprosy, chaulmoogra oil, a vegetable product, seems to be "heading in" as a specific.

Most recent of the epochal advances in therapy is the discovery of insulin by our Canadian confereres, Banting and Best, in the treatment of diabetes mellitus. Although strictly speaking it is neither a preventive nor a cure, yet it gives such surcease to the sufferers from this malady that it is hailed with all the enthusiasm of a specific. Before the introduction and use of insulin diabetic coma was almost uniformly a fatal condition. Now the timely use of insulin not only saves life but it enables the diabetic to metabolize sufficient carbohydrate to furnish the energy necessary for him to follow some vocation to gain a livelihood. Insulin cannot restore destroyed islands of Langerhans in the pancreas, but it can and does substitute for their destroyed function. Yes, progressive medicine is ever searching for and finding specifics; and more will be found.

Tuberculosis, pneumonia and cancer are of such wide distribution and such high death toll that research laboratories throughout the world are earnestly searching for specifics for these maladies. The nature and cause of tuberculosis and pneumonia are known, two very important steps in the discovery of specifics and I anticipate that in the not distant future we will have specifics for them. As to cancer its nature, cause and cure are unsolved problems. All the pathologist can tell us is that the cancer cell is of the embryonic type showing no visible

difference from the normal embryonic epithelial cell, except that the cancer cell shows the mitosis or cell division not visible in the normal cell.

I am prone to believe that when the cause of cancer is discovered—as it will be—it will be found to be due to some perversion of metabolism brought about by local irritation, or a product arising from this cause, and not to a bacterium. Therefore, I believe further that the curative agent will come from the chemical or the biochemical laboratory. One out of every fourteen deaths in the United States is from cancer. One thing seems to be certain about cancer wherever located, and that is that it starts from some local irritation. Is it possible that this local irritant acts on the normal epithelial cells in such a way as to convert them into cancer cells, or causes these cells to produce cancer cells through perversion of metabolism?

The discovery of a specific cure while it is yet local must await the discovery of the laboratory, possibly ultramicroscopy or a more highly refined and delicate laboratory technique.

There are two other maladies which, because of their wide prevalence and high death toll, give deep and serious concern to the medical profession throughout the civilized world, i.e., heart disease and accompanying chronic interstitial nephritis. The causes of heart disease are so protean in character that specifics I fear if ever found lie in the distant future. Revelations from the Bureau of Vital Statistics show that today in the United States more people are dying from these two maladies combined than from any other cause, one out of every five deaths being the record at this time. Men and women are stricken down as by a stroke of lightning, many apparently without previously known heart symptoms, and especially it will be noticed that heart disease is taking a high death toll from the medical profession. So prevalent has heart disease become in recent years and so increasingly heavy has been the death toll that heart clinics are springing up and heart associations organizing for the investigation and study of heart disease. How unfortunate for the medical profession just at this time that the father of modern cardiology, a man without a peer in his chosen field of work, should be taken from us by death; I refer to the renowned Sir James Mackenzie, of London, England. If cardiology ever needed the aid he was preeminently fitted to give, it is just at this time.

In closing I will only say that the profession of medicine is measured and evaluated by the efficiency of its therapy in fulfilling the mission of medicine—to relieve pain and suffering, restore health and save and prolong life.

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EDITORIALS

THE KAHN TEST ADOPTED AS STANDARD BY THE ST. LOUIS HEALTH DEPARTMENT

The probationary period of the Kahn test is rapidly being passed and it is now accepted by many workers as the future laboratory diagnostic test for syphilis. Thousands of comparative tests have been made in conjunction with the Wassermann in hundreds of laboratories in this country as well as in foreign countries. The consensus of opinion is that the Kahn test is more reliable and specific than is the cumbersome Wassermann. The laboratories of the St. Louis Health Department have had four years of satisfactory experience with the Kahn test using Dr. Kahn's original method, but have now adopted his improved standard method.¹

The Kahn test is a comparatively simple and direct means of detecting syphilitic reagin in sera. It requires only three reagents, a specially prepared beef heart antigen, normal salt solution and the patient's serum for its manipulation.² Definite amounts of the patient's serum are added to quantitative amounts of antigen, the test shaken three minutes, salt solution added and finally the test is read and recorded within a few minutes. Syphilitic sera contain a definite precipitate in the completed test while normal sera remain clear.

Although the Kahn test is a very simple and direct means of detecting syphilitic reagin, its manipulation calls for skilled and experienced workers. The test requires an accurate adjustment between serum and antigen, a definite and standardized shaking period and considerable judgment in the interpretation of the end results. More important than other considerations, the Kahn test requires a carefully prepared and standardized antigen. Kahn antigen cannot be prepared in a hit or miss manner and then used in the test without careful adjust-

ment. Kahn antigen is prepared on a definite quantitative basis, using unit amounts of ingredients and standardized apparatus. After its preparation it must be brought to a definite degree of sensitiveness so that it be comparable to the standard created by Dr. Kahn. In fact, the process of preparing and standardizing Kahn antigen is so important that all the larger institutions that have adopted the Kahn test as their standard and those that use it in conjunction with the Wassermann, manufacture their antigen in a centralized laboratory under the supervision of a competent serologist, and from there it is distributed to the smaller and branch laboratories. That is the way that the following institutions handle their antigen problem: Michigan Department of Health, United States Navy, United States Army, United States Veterans' Bureau, Illinois Health Department, Ohio Health Department and several other institutions. Usually the smaller laboratories find it more convenient to purchase their antigen from one of the institutions that offer it for sale.

The Kahn test should prove of great value to St. Louis physicians for it comprises the following helpful procedures in the diagnosis of syphilis:

1. *Routine test with serum:* Employed in the diagnosis of syphilis and as a check on antisyphilitic treatment.

2. *Quantitative procedure with serum:* For determining the number of syphilitic reacting substances, particularly in the study of treated cases.

3. *Spinal fluid procedure, qualitative and quantitative:* Employed in the diagnosis of neurosyphilis and as a check on treatment.

4. *Micro-Kahn procedure:* Used in testing minute amounts of sera when only a drop or two is available.

5. *Presumptive procedure:* A highly sensitive test used in detecting traces of syphilitic reagin in sera.

Following the tendency of other diagnostic laboratories because they realized the added service that the Kahn test offers and its economy in manipulation with its definite specificity as a laboratory diagnostic test for syphilis, the Saint Louis Health Department adopted this test as its standard on August 8. Beginning with that date Kahn tests will be reported daily and specimens that reach the laboratory before 10 a. m. will be reported by mail before 5 p. m. on the same day. In special emergency cases, such as preoperative and blood transfusions, and at the request of physicians, the laboratory will report Kahns within one hour after the receipt of the blood specimen.

1. Willett, J. C.: Comparative Study of the Wassermann and Kahn Tests 1400 cases. J. Missouri S. M. A. 22:177, 1925.

2. Kahn, R. L.: Serum Diagnosis of Syphilis by Precipitation: Governing Principles, Procedure and Clinical Interpretation of the Kahn Precipitation Test. Baltimore: Williams and Wilkins Company. 1925.

IMPORTANT MEDICAL GATHERING AT KANSAS CITY IN OCTOBER

On another page¹ we publish information upon the coming session of the Kansas City Annual Fall Clinical Conference and the Inter-State Post Graduate Medical Association of North America to be held in Kansas City, Monday, October 17, to Friday, October 21. Preceding these gatherings the physicians of Greater Kansas City have arranged for pre-assembly hospital clinics to be held in the hospitals of Kansas City, Missouri, and Kansas City, Kansas, on Friday and Saturday, October 14 and 15.

The regular monthly sessions of the Kansas City Clinical Society have become an established institution and attract many physicians to the sessions. Members of the Clinical Society are in a large measure responsible for the growth and continuance of the Kansas City Annual Fall Clinical Conference and it was through their efforts that the Inter-State Post Graduate Medical Association of North America decided to hold its 1927 session in Kansas City. Missouri physicians have therefore an unusual opportunity awaiting them next month not only to attend numerous clinics on practically every phase of medical practice but a very exceptional opportunity to see the work of and hear the discussions by many of the most eminent men in our profession not only in this country but from England, Holland, Belgium, Italy, Austria, Germany, Denmark, Ireland and Switzerland. All these countries are sending celebrated representatives of the profession to be guests. Members desiring to attend the sessions should read the announcement on another page and arrange for hotel and other accommodations as soon as possible.

A NEW MORGUE FOR ST. LOUIS

What we hope is the end of a thirteen year struggle in St. Louis to erect a modern morgue was probably accomplished on August 16 when the bid of the Kellermann Construction Company was accepted by the Board of Public Service. This is a refreshing bit of news not only for the members of the medical profession but for every forward looking citizen of St. Louis. The city has set aside \$161,000 for the building, the offer of the successful bidder being \$127,264.

In 1925 it was thought there were sufficient funds available to erect a new morgue and elaborate plans for a thoroughly modern structure were prepared and bids invited but the lowest bid exceeded the city's estimate of

\$210,000 by \$30,000. The project was abandoned for a year, the plans altered and new bids called for. In February, 1926, a low bid of \$205,000 was still in excess of the amount of money then set aside for a morgue and once more the matter was laid on the shelf. The pruning knife was again applied to the plans and alterations made to cut down costs so that what would have been a highly creditable structure where the city's unidentified dead could be given proper care and attention was reduced to a building of modest proportions with facilities to care for present needs, the future being permitted to prepare for its own struggle with municipal finances when the new building ceases to be adequate for its purpose.

The plans call for a two-story and basement building of simple design located on Clark Avenue to face the Memorial Plaza where other municipal buildings will be grouped. On the first floor will be the general offices of the coroner and the mortuary with twenty-four crypts in which bodies will be placed for identification. An autopsy room and an X-ray room will complete the equipment of the first floor. The X-ray will be used for locating bullets and fractures without the necessity of exploratory operations. The second floor will have rooms for the coroner's court, small inquest rooms, witness rooms, and private offices for the coroner and the deputy coroner.

Thirteen years ago* we ventured a prophecy concerning the new morgue for St. Louis and said:

St. Louis is to have a new mortuary. Where the money is coming from; where the building is to be placed; what it is going to cost; what its style of architecture will be we do not know, and we do not care. But we know we are going to have it. Why?

Because of two reasons: First, the citizens of St. Louis as a community are beginning to take an interest in the welfare of their city. The same expression of culture and of civilization that makes for a symphony orchestra and a free art museum and a public Christmas tree will see to it eventually that proper respect and care are given the dead.

And second: Because now, at the right time, St. Louis has the right man for coroner, Dr. L. R. Padberg, the type of man who gets things done. In the short time that he has been coroner he has been on the job. * * * And now he has centered on a demand for a new morgue and come before the people and asked for it, and he is going to get it. He does not know how—yet. But he is going to find out. He has his teeth sunk into the trousers of every city official that counts and there is not a man in the City Hall who is not in danger of being picked up and whirled down to that dirty old corner of the jail, which holds every tradition associated with the word morgue, and made to stand and see just what would happen to him, or to you or to me, if we were picked up dead on the streets of St. Louis to-morrow. * * * As St. Louis will at some future time build an opera house and make a

1. See page 432.

*THE JOURNAL, 10:255 (1914).

"city beautiful" for the living, so will they build a dignified and adequate and scientifically equipped structure for the care of the unfortunate and accidental dead.

Dr. Padberg's work bore fruit though it required thirteen years to ripen. Since his retirement every coroner has besieged the city fathers for money to build a new morgue. For the past six years Dr. Rudolph S. Vitt, the present coroner, has been in consultation with the architects and city officials who have charge of the erection of the new building. Altering the plans to reduce the cost and meet the money situation has been done under the direction and with the approval of Dr. Vitt.

It is hoped that the new morgue will be completed in the early spring of 1928, perhaps in February or March. All persons who have had occasion to visit the present morgue will ardently hope that the contractor will complete his job on time and even ahead of time in order that the present unsightly building may be obliterated as soon as possible.

NO. 40 COMPLETED

With the completion of National Highway No. 40 in August, linking St. Louis and Kansas City with an unbroken concrete slab, Missouri established her first hard road from the eastern to the western boundaries of the state. This announcement occasioned extreme gratification to the physicians of Missouri for they perhaps more than any other class of citizens are compelled to use the roads whether they are in good, bad, or indifferent condition, and in all sorts of weather.

No longer shall we have our professional friends traveling across the country from the east or from the west tell us that they "had fine roads all the way until we hit Missouri and then—!" President-Elect Ridge was one of the first persons to drive over the completed road when he motored from Kansas City to New York on his way to Europe.

The ribbon of concrete is a splendid piece of engineering work, laid almost in a straight line with no dangerous curves and almost no grade crossings. St. Charles, Wentzville, Warrenton, Jonesburg, Columbia, Boonville and Odessa are the principal towns directly on the road. Crossing No. 40 are paved or graded roads giving easy access to Fulton, Mexico, Jefferson City, New Franklin, Fayette, Marshall, Sedalia, Higginsville, Lexington, and Warrensburg.

For several years a limited number of physicians have been driving to our annual sessions but with the completion of this concrete highway across the center of the state we anticipate

an unusually large attendance at the Columbia meeting next May because of the accessibility of Columbia to numerous towns by motor routes. We believe also that the opening of this highway will encourage attendance at county and district society meetings for it will provide rapid and comfortable motoring over distances of from fifty to a hundred miles in a few hours and so trips can be planned to suit the convenience of the members irrespective of weather conditions.

All Missourians will rejoice over the completion of this splendid highway but none of them will be more genuinely happy about it than the busy physician.

DR. T. W. SALMON

The untimely death of Dr. Thomas W. Salmon, professor of psychiatry Columbia University, New York, on the sixteenth of August brought real sorrow to hundreds of his friends all over the world. Few men of his period have equalled him in clear vision of the problems of modern psychiatry.

Trained in the United States Public Health Service he was already accustomed to breadth of view when the great war came, so he grasped the great problems of military need more fully and prescribed solutions of many of them more clearly than any other neuropsychiatrist. Never before in war had the nervous and mental status of soldiers been given the attention their importance deserves. Dr. Salmon found the tasks laid upon him suited to his tastes and training and, boldly pioneering, he set out to accomplish them with vigor and earnestness rarely exceeded. His success is a matter of imperishable record.

But aside from the great part he played in world affairs his sweet nature and kindly impulses bound to him a host of friends who loved him, and would have loved him had he never done any of the work which placed him among the immortals.

NEWS NOTES

Drs. E. Lee Myers, T. W. Taylor, and J. W. Langan, Jr., St. Louis, motored to the Pacific Coast in August where Drs. Myers and Taylor joined their families.

The next meeting of the State Board of Health for the examination of applicants to practice medicine will be held in Kansas City, October 17, 18 and 19, 1927.

Mr. Nathan Nagle has been appointed serologist in the St. Louis Health Division Labora-

tories. For the past three years Mr. Nagle was associate serologist in the laboratory of the Michigan Department of Health, Lansing, Michigan, and was associated with Dr. Kahn during the time when the latter was doing considerable work on the standardization of his antigen. The St. Louis Health Division laboratories have adopted the Kahn test as standard after four years of comparative study with the Wassermann test.

Dr. Guy L. Noyes, Columbia, Dean of the School of Medicine and Director of the University Hospital of the University of Missouri, was recently honored at a luncheon in Boston given for him by alumni of the medical department of the University of Missouri who are completing their course in medicine in Harvard University.

El Paso, Texas, with its warm, dry, and equable climate has become a favorite spot for persons suffering from respiratory diseases. Several splendid institutions have been erected in El Paso for the care and treatment of those afflicted with tuberculosis. The latest and most modern institution of this type to open its doors for the treatment of tuberculous patients is the St. Joseph's Sanatorium, operated by the Sisters of St. Joseph, with Sister Mary Ursula superintendent and Dr. Orville Egbert medical director.

Examinations of candidates for entrance into the Regular Corps of the United States Public Health Service will be held November 7, 1927, at Washington, D. C., Chicago, New Orleans, and San Francisco. Candidates must be not less than twenty three nor more than thirty two years of age, and they must have been graduated in medicine at some reputable medical college and have had one year's hospital experience or two years' professional practice. Requests for information or permission to take this examination should be addressed to the Surgeon General, United States Public Health Service, Washington, D. C.

According to the *Ohio Health News*, questionnaires were recently sent to 7,000 editors of leading American newspapers by the Research Division of the Publishers Syndicate Corporation of New York, and returns were made by 2,696. As a result it has been found that 96 per cent. of these editors support practitioners of regular medicine and call their family physicians when there is illness in their homes, rather than cultists or would be healers. With this fact to encourage us we are looking

forward to the time when there will be fewer advertisements of medical fakers and worthless nostrums and more space devoted to articles on health and sane living in the newspapers.

The recent dedication of the Zoological Hospital and Research Institute, San Diego, was attended by about 135 physicians and other scientific men. This Institute, a gift of Miss Ellen C. Scripps, contains eleven small laboratories each equipped for special work, a roentgen ray and dark room, a library, general laboratory, technician's laboratory offices and morgue, and a photomicrographic outfit. Biologists interested in avian and mammalian research will be afforded unusual opportunities for work. Dr. Rawson J. Pickard is chairman of the hospital and research committee, and H. C. Goodsil director of research and education.

"The Wood family, prominent in the history of Shelby County from its early days, soon will complete ninety four years as practicing physicians there," says a dispatch from Shelbyville to the *St. Louis Globe-Democrat*. "Dr. A. H. Wood, Shelbina, is the third of that family to follow the medical profession in Shelby County. Dr. A. M. Wood, Sr., his grandfather, was one of the pioneers, settling there in 1833 and immediately entering upon the practice of medicine. Dr. A. M. Wood, father of the present Shelbina physician, was born in Cuba but was only two years old when his parents came to Shelby County. He practiced medicine there more than fifty years."

The St. Louis College of Pharmacy laid the corner stone of its new building, located at Parkview and Euclid Avenues, on July 12. When completed it will be a four story structure modern in every respect costing \$331,000. A complete drug store for the use of the students as a laboratory will be installed thus giving the students experience in filling prescriptions. The college was founded sixty three years ago. Dr. Charles E. Caspari is dean of the college. During the exercises Mr. William C. Bolm, Chairman of the Board of Trustees, paid a tribute to the late Dr. H. W. Whelpley who was connected with the college from 1887 until his death in 1926.

Fully equipped with every appurtenance modern medicine has developed for the care of the pregnant woman and research into obstetrical problems, the new building of the St. Louis Maternity Hospital opened its doors for the reception of patients on August 15. The hospital is one of the largest in the country

having a capacity of 105 patients including 40 private rooms. The building is an eight story structure located on Kingshighway Boulevard and forms one of the group of buildings of the Washington University Medical School to which institution it is attached. Besides being staffed with a group of skilled obstetricians there are facilities for quartering full time research workers who will be supported by funds donated by the Rockefeller Foundation.

The Arcadia Valley Hospital at Ironton, under the direction of Dr. R. W. Gay, is situated in an ideal spot for rest, recuperation and



convalescence. It is splendidly equipped and beautifully located to care for chronic invalids and convalescents.

A law recently passed in Ecuador provides that proprietors of all kinds of factories and workshops shall furnish safe and sanitary working conditions for their workers. Regulations are prescribed to insure general cleanliness and proper ventilation and to prevent accidents. The law also forbids the employment of women and children under the age of 18 years in work where white lead or other poisonous coloring substances are used, in the manufacture and handling of explosives or inflammable materials, and in heavy manual labor. Women workers are to be given four weeks' leave before childbirth and six weeks after childbirth, during which period their employers shall pay 50 per cent. of their salary. Employers are not permitted to dismiss pregnant women without legal reason.

An act to regulate the importation of milk and cream into the United States for the purpose of promoting the dairy industry of the United States and protecting the public health, was passed at the last session of congress. The enforcement of this act has been assigned to the Food, Drug and Insecticide Administration which also enforces the federal food and drugs act and certain other regulatory measures.

The regulations for the enforcement of the milk act explain the procedure for making physical examination of cows, for applying the tuberculin test, for the sanitary inspection of dairy farms and of plants handling or shipping milk or cream, for the scoring of dairy farms or plants, for pasteurizing and determining the bacterial count, and outline the method for obtaining permanent permits required under the terms of the act.

In 1925 a plan for saving the uninfected children of the Culion leper colony in the Philippines was instituted by the office of the public welfare commissioner at Manila. In order to prevent these children from contracting leprosy from their parents they are removed from the colony and placed in institutions or private homes. By January, 1926, 285 children under 15 years of age had been removed. The youngest children are cared for in a public nursery near Culion, and if it is not possible to place the older ones with relatives or friends they are put in institutions where their care can be supervised by the office of the commissioner. Periodical health examinations are given to detect any early signs of leprosy which may appear. School training is provided and as far as possible the children are being prepared for happy, useful lives. They are encouraged to correspond with their parents, who are advised by monthly reports from the institutions of their progress. This correspondence is deemed safe, since all letters sent from the leper colony are thoroughly disinfected. The discovery of a cure for leprosy makes possible the hope that the children may eventually be restored to their parents.

The United States Supreme Court, in an opinion handed down by Justice Holmes in the case of Carrie Buck, a feeble-minded white woman in the Virginia State Colony for Epileptics and Feeble-minded, upholds the right of the State of Virginia to sterilize defectives through operative procedure. "Three generations of imbeciles are enough," states the opinion. The patient in this case is the daughter of a feeble-minded mother in the same institution and is the mother of an illegitimate feeble-minded child. The opinion further states that "We have seen more than once that the public welfare may call upon the best citizens for their lives. It would be strange if it could not call upon those who already sap the strength of the state for these lesser sacrifices, often not felt to be such by those concerned, in order to prevent our being swamped with incompetence. It is better for all the world if, instead of waiting to execute degenerate offspring for crime,

or let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind. The principle that sustains compulsory vaccination is broad enough to cover cutting the Fallopian tubes."

Physicians and tuberculosis workers of twelve states, as well as tuberculosis experts from all over the country, will meet in St. Louis on September 26, 27 and 28, attending the eleventh annual Mississippi Valley Conference on Tuberculosis. Headquarters will be at the Statler Hotel and the meetings will be held on the roof garden. A two-day medical session will be a special feature of the conference. Washington University and St. Louis University medical schools, the St. Louis Medical Society and Trudeau Club are cooperating to make the medical session worth while and interesting. A chest clinic, sanatorium program, nurses' session, and child health section are some of the other sessions which will interest physicians as well as tuberculosis workers. The high spots of the program include racial problems, national campaign for early diagnosis, high school health program, heart disease in a health program, mental hygiene, health and industry, and health surveys. The twelve states which will be represented at the conference are Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Ohio and Wisconsin. The annual meeting of the Missouri Tuberculosis Association will also be held during the conference.

Dr. Thos. R. Crowder, President of the American Association of Industrial Physicians and Surgeons, has appointed a committee to study the health and safety hazards in the twelve major industrial groups represented in the membership of the Association. These groups include: automobile, chemicals, electrical, food, foundries, iron and steel, metal, mining, public utilities, rubber, textiles, and office and trade. Each member of a committee will make an investigation of those conditions in his own organization entailing possible or positive health hazards. This information will be assembled for analysis and study.

It is believed that no one can be found better equipped to study and estimate properly the conditions of modern factory and office life than the medical director whose chief concern is the well-being and safety of those employed in such work. Each industry is confronted by problems peculiar to its own conditions of employment. These problems belong, primarily, to the industrial physician whose experience

has already given him an intimate knowledge of the conditions that affect the health and safety of the employees in his own organization. It is expected that the assembled information resulting from this study will form a worth while contribution to the question of industrial medicine and hygiene in this country where this investigational type of work has lagged behind a similar work in Europe. On the other hand the development of medical organizations in industrial work in America has far outrun a similar activity in European industry. With the completion of the work now under way by this committee, the health problems of major industrial groups in this country should be better appreciated than they are at the present time.

Throughout the country the pseudo-medical cults have put up a fight to secure legal recognition. Indiana has been a recent fighting ground. The chiropractors have succeeded in establishing separate licensing boards in several states, which is highly detrimental to the interests of the public, as it legalizes the practice of uneducated and untrained men. During the last session of our Indiana Assembly the drugless cults put up a strong fight for separate recognition. After analyzing the situation it was determined better to accept a modification of our medical law and to permit the chiropractors to have a representative on the present medical board. A chiropractor who has not practiced in Indiana prior to January 1, 1927, must comply with the requirements exacted of every other practitioner of medicine insofar as the basic principles of practice are concerned. Hereafter chiropractors must have had training in the cardinal branches of medicine, excepting only therapeutics, surgery and obstetrics. An injunction clause also was inserted in the law, which prohibits an unlicensed person from practicing in the state. No bill came up for consideration in either the House or Senate that met with such heated and prolonged discussion, but it was finally passed, signed by the governor, and became a law. The chiropractors have received recognition, but provisions in the law provide for the protection of the public. If a chiropractor receives an education in the cardinal branches of medicine, and learns to diagnose disease conditions with a semblance of accuracy, he ceases to be a menace to the community. Again, he must stick to his manipulations and not use drugs or practice surgery or obstetrics. The legislation is believed to be fairly satisfactory in behalf of sane and needed legislation for the protection of the health of the people.—*Journal Indiana State Medical Assn.*

The tenth edition of the American Medical Directory, published by the American Medical Association, is just off the press. It contains 164,002 names of physicians in the United States, its dependencies and Canada, an increase of 2,644 over the previous edition. The Missouri section contains the names of 5713 physicians, 93 less than appeared in the 1925 edition and 114 less than the number listed in 1923. In St. Louis there is an increase of medical population, the total for 1927 being 1914. In 1925 the directory showed 1861 physicians in St. Louis and in 1923, 1830. The total for Kansas City is 998, a decrease of four from the number listed in 1925 but an increase of 39 over the number listed in 1923. St. Joseph has 166 physicians, an increase of one over the 1925 listing and an increase of seven over the 1923 listing. Springfield apparently gained and lost an equal number from 1925 to 1927, the total for each year being 121 which is an increase of five over the listing for 1923. The directory not only includes the names and addresses of physicians but gives proof of the right of each physician listed to practice medicine, namely, time and place of graduation and year of license. In addition, society membership, specialty and office hours are included. Capital letters indicate those who are members of their county medical society, and a special symbol follows the names of those who are Fellows of the American Medical Association. Descriptive data appears following the names of 7,816 hospitals and sanatoriums of the United States such as type of patients handled, capacity, and name of superintendent or director. The list of physicians in each state is preceded by a digest of the laws governing medical practice in that state; members of licensing board; state board of health; names of city, county and district health officers; officers of constituent state associations and component county and district medical societies. The book contains 2,575 pages and may be obtained at the sum of \$15.00.

The September 14 meeting of the Medical Society of the Missouri Valley to be held at Des Moines, Iowa, will include clinics or addresses by the following persons: Harry W. Dahl, Des Moines, Iowa; Lewis J. Pollock, professor and chairman of the division of neurology and psychiatry, Northwestern University Medical School, Chicago; Walter L. Bierring, Des Moines, Iowa; Anton J. Carlson, professor of physiology, University of Chicago; Charles C. Tomlinson, assistant professor of dermatology and syphilology, University of Nebraska College of Medicine, Omaha;

Paul M. Bancroft, B.S., fellow, department of pathology, University of Nebraska College of Medicine, Omaha; Arthur D. Dunn, director, department of experimental medicine, University of Nebraska College of Medicine, Omaha; Bernard M. Kully, instructor in otolaryngology and anatomy, Creighton University School of Medicine, Omaha; Caryl A. Potter, St. Joseph, Mo.; William T. Bovie, Ph.D., professor of biophysics, Medical School of Harvard University, Boston; Richard L. Sutton, professor of dermatology, University of Kansas School of Medicine, Kansas City, Kan.; Nelse F. Ockerblad, associate professor of clinical urology, University of Kansas School of Medicine, Kansas City, Kan.; Herman L. Kretschmer, professor of urology, Rush Medical College, Chicago; William T. Coughlin, professor of surgery and director of department, St. Louis University School of Medicine, St. Louis, Mo.; Ralph H. Major, professor of medicine, University of Kansas School of Medicine, Kansas City, Kan.; Clifford C. Nesselrode, associate professor of surgery, University of Kansas School of Medicine, Kansas City, Kan.; James F. McDonald, professor of anatomy, Creighton University School of Medicine, Omaha; David P. Barr, Busch professor of medicine, Washington University Medical School, St. Louis, Mo.; F. B. Langdon, Des Moines, Iowa; Everett D. Plass, professor and head of the department of gynecology and obstetrics, State University of Iowa College of Medicine, Iowa City; Arthur Steindler, professor and head of the department of orthopedics, State University of Iowa College of Medicine, Iowa City; Fred M. Smith, professor and head of the department of the theory and practice of medicine, State University of Iowa College of Medicine, Iowa City.

Unique among structures for physicians' offices is the new Beaumont Medical Building, St. Louis, the name commemorating the distinguished St. Louis physician, Dr. William Beaumont, and his epochal studies of the gastric functions. The building was finished early this summer and the ten stories are entirely occupied by physicians and a few dentists. No offices are rented to commercial firms, not even to those whose business is exclusively with the medical or dental professions. For several years the physicians who conceived the plan, and they are all members of the St. Louis Medical Society, studied propositions and plans drawn up according to their ideas of how such a building should be constructed and financed. About a year ago plans for the building were approved and the scheme for financing the

undertaking was completed. Stock was offered to physicians in sums ranging from \$1,000 upward but no work was begun on the building until 75 per cent. of the space was taken in five to ten year leases. Each physician was given



the privilege of arranging his suite according to his needs. The building cost \$1,000,000 and the sum was raised in one day by the sale of the bonds. It is estimated that the physicians will own the building outright within seventeen years. In the beginning it was thought that a five story building would provide sufficient accommodations for those intending to take space but demands grew as the project became more generally known and the final plan called for ten stories with foundations to permit a fifteen story addition.

One of the unusual features in the building is the hospital equipment, the entire second floor being occupied by a 25-bed hospital. Like every other appointment in this ultra-modern office building the hospital is equipped with all the completeness of a 500-bed institution. A private telephone and a radio are installed in each of the rooms for patients, of which there are eleven single rooms and one double room, and the furnishings are in keeping with such equipment. There are also three 4-bed wards. There are four operating rooms, two of them specially designed for nose and throat operations, and special diet kitchens. Miss Marian Rowland, former assistant super-

intendent at St. Luke's Hospital, is superintendent of the hospital and Miss Mary Coleran is supervisor of the operating room, these two being assisted by four other nurse employees. A physician is constantly on duty at night.

The building is located at 3720 Washington Boulevard, being close to Grand Boulevard but far enough removed from that thoroughfare to escape the noise of traffic and provide ample parking space. The officers of the building company are: Dr. Edwin C. Ernst, president; Dr. M. F. Engman, vice president; Dr. Fred J. Taussig, treasurer, and Dr. Ellis Fischel, secretary. Directors include the officers and Drs. J. S. Kimbrough, W. H. Mook and Albert E. Taussig.

The 1927 sessions of the Kansas City Annual Fall Clinical Conference and the Inter-State Post Graduate Medical Association of North America will be held in Kansas City, October 17 to 21, in the New Shrine Temple, Eleventh and Central Streets. The Pre-Assembly Hospital Clinics will be given in the hospitals of Greater Kansas City on Friday and Saturday, October 14 and 15, the Inter-State Post Graduate Association opening its convention Monday, October 17, and continuing through Friday, October 21. Sessions will be held morning, afternoon and evening of each day. There will be scientific programs and ambulatory clinics each afternoon at Muehlebach Hotel. Dr. J. Shelton Horsley, of Richmond, Virginia, is a special guest upon Saturday afternoon, October 15, and will deliver an address on "Peptic Ulcer," illustrated with lantern slides. The banquet in honor of distinguished guests will be given on Friday evening, October 21.

The guests from Europe and their specialties follow:

- Sir John Bland-Sutton, England, Surgery.
- Sir John F. H. Broadbent, England, Internist.
- Dr. R. P. Ranken-Lyle, England, Obstetrics-Gynecology.
- Dr. Ersilio Ferroni, Italy, Obstetrics-Gynecology.
- Prof. Adolph Maffei, Belgium, Pediatrics.
- Mr. Garnett Wright, F.R.C.S., England, Surgery.
- Dr. I. Snapper, Holland, Pathology.
- Dr. Gustav Alexander, Austria, Otolaryngology.
- Dr. Giuseppe Franchini, Italy, Pathology.
- Dr. Otto J. Kaufman, England, Neurology.
- Dr. Sigmund Frankel, Austria, Obstetrics-Gynecology.
- Dr. John S. McArdle, F.R.C.S., Ireland, Surgery.
- Dr. Luigi Mangiagalli, Italy, Obstetrics-Gynecology.
- Dr. J. Marinho, Brazil, ALR.
- Dr. Fritz Steinmann, Switzerland, Orthopedics.
- Dr. Paul Unna, Germany, Dermatology.
- Prof. Pasquale Sfameni, Italy, Obstetrics-Gynecology.
- Prof. E. Schmiegelow, Denmark, Otolaryngology.

The distinguished guests from America will include the following surgeons:

Dr. Charles H. Mayo, Rochester, Minn.
 Dr. Alfred W. Adson, Rochester.
 Dr. Joseph Colt Bloodgood, Baltimore.
 Dr. Walter E. Dandy, Baltimore.
 Dr. John B. Deaver, Philadelphia.
 Dr. Francis E. Lahey, Boston.
 Dr. William D. Haggard, Nashville.
 Dr. Robert C. Coffey, Portland, Ore.
 Dr. George J. Heuer, Cincinnati.
 Dr. John J. Moorhead, New York.
 Dr. Clarence G. Toland, Los Angeles.
 Dr. George W. Crile, Cleveland, Ohio.
 Dr. Arthur Dean Bevan, Chicago.
 Dr. Hugh Cabot, Ann Arbor, Mich.
 Dr. John F. Erdmann, New York.
 Dr. E. Starr Judd, Rochester.
 Dr. Dean Lewis, Baltimore.
 Dr. W. E. Lower, Cleveland.
 Dr. Jabez N. Jackson, Kansas City, Mo.
 Dr. LeRoy Long, Oklahoma City.
 Dr. Allen Graham, Cleveland.
 Dr. Rea E. Smith, Los Angeles.
 Dr. Robert S. Dinsmore, Cleveland.

The following distinguished internists will hold clinics or give addresses:

Dr. Charles Herbert Best, Toronto.
 Dr. Lewellys F. Barker, Baltimore.
 Dr. David P. Barr, St. Louis.
 Dr. Harlow Brooks, New York.
 Dr. Charles A. Elliott, Chicago.
 Dr. Clarence M. Grigsby, Dallas.
 Dr. Henry J. John, Cleveland.
 Dr. Elliott P. Joslin, Boston.
 Dr. Frederick J. Kalteyer, Philadelphia.
 Dr. John C. Meakins, Montreal.
 Dr. James H. Means, Boston.
 Dr. Charles H. Neilson, St. Louis.
 Dr. John Phillips, Cleveland.
 Dr. Francis M. Pottenger, Monrovia, Calif.
 Dr. David Riesman, Philadelphia.
 Dr. Leonard G. Rowntree, Rochester.
 Dr. Milton J. Rosenau, Boston.
 Dr. Frank Smithies, Chicago.

The specialties are represented by the following distinguished physicians:

Dr. Irvin Abell, Louisville, Ky., Obstetrics-Gynecology.
 Dr. Alan Brown, Toronto, Canada, Pediatrics.
 Dr. Nathaniel Allison, Boston, Orthopedics.
 J. P. Collip, Ph.D., Alberta, Canada, Biochemistry.
 Dr. William B. Hendry, Toronto, Canada, Obstetrics-Gynecology.
 Dr. Fielding O. Lewis, Philadelphia, ALR.
 Dr. Frank C. Mann, Rochester, Clinical Pathology.
 Dr. James M. Martin, Dallas, X-ray.
 Dr. McKim Marriott, St. Louis, Pediatrics.
 Dr. U. V. Portmann, Cleveland, X-ray.
 Dr. Edward A. Strecker, Philadelphia, Neuro-Psychiatry.
 Dr. Fritz Talbot, Boston, Pediatrics.
 Dr. Gabriel Tucker, Philadelphia, ALR.
 Dr. Alfred S. Warthin, Ann Arbor, Mich., Pathology.

SOCIAL CALENDAR

Friday, October 14, 8:00 p. m., Smoker and get-together, Muehlebach Hotel.

Saturday, October 15, 7:00 p. m., Alumni dinners, Hotels and Clubs.

Sunday, October 16, 7:00 p. m., Buffet supper, informal, Mission Hills Country Club for distinguished guests, sponsors and visitors.

Tuesday, October 18, 1:00 p. m., Luncheon for visiting ladies.

Tuesday, October 18, 10:00 p. m., Formal reception to distinguished foreign guests. Grand Ball Room, Muehlebach Hotel.

Wednesday, October 19, 1:00 p. m., Luncheon for ladies at Women's City Club. Dr. Wm. D. Haggard and Dr. Jos. Colt Bloodgood, special guests.

Thursday, October 20, 2:00 p. m., Automobile drive for ladies and distinguished guests, starting at Muehlebach Hotel, Baltimore Avenue.

Friday, October 21, 7:00 p. m., Banquet to distinguished foreign and American guests, Muehlebach Hotel, Grand Ball Room. Positively limited to 500.

Members who expect to attend the sessions are earnestly requested to notify the Kansas City Clinical Society when they expect to arrive and whether they desire hotel reservations. Such communications should be addressed to 631 Rialto Building, Kansas City.

BOOKS FOR LEISURE MOMENTS

Quite an unusual and valuable book has just been issued under the editorial direction of Sir Thomas Oliver, Professor of Medicine, University of Durham, entitled, "The Health of the Child of School Age" (Oxford University Press, American Branch, 35 West 32nd Street, New York City). It is, in condensed form, a collection of lectures delivered by eminent English physicians under the auspices of the Institute of Hygiene, and illustrates one of the many cited activities of the Institute. The volume deals with questions to which at present the public is giving considerable attention. The book should have an appeal not only to physicians but to parents and teachers. An opportunity is given in this volume for parents to be instructed on points of health during the early years of child life, ignorance of which often requires years to overcome.

One of the most important chapters in this volume is by J. S. Risien Russell on the "Prevention of Nervous Affections in the Young." The doctor very clearly informs his readers first, as to what the nervous system is whose diseases and afflictions we wish to prevent. This is quite important to know because so many people speak of the nervous system without any real knowledge of what is meant by the term. Several diseases are discussed which cause children to become mentally deficient and which are responsible for a variety of dis-

ordered functionings of the nervous system. Advice is given to mothers concerning the time of pregnancy and even before conception of the child and reasons given why the nervous system of the child may not be normal. Assuming that the nervous system of the child at birth is in every sense normal, we learn how it can be wrecked permanently either from want of knowledge or deliberate neglect and carelessness. Illnesses, such as influenza, discharge of the ear and sore throat, which may appear simple and of little importance, may nevertheless have dire consequences as far as the nervous system is concerned, even to the extent of a fatal issue.

A chapter on "Preventable Deformities in Childhood and Adolescence" by Col. A. H. Tubby, is a subject every one should understand in a logical and intelligent manner. The doctor handles the subject first, from the viewpoint of the psychology of the deformed. The general belief that a deformed body shelters a twisted and even malign mind has been authoritatively set aside. On the contrary, in the majority of cases their bodily weakness and failings make these unfortunate people intensely sympathetic to human woes and suffering. Many classes and types of deformities are both preventable and curable. Rickets, a disease of infancy, early childhood and adolescence, causes a great amount of deformities as it affects every tissue of the body, especially the bones. Since a case of rickets is caused by a deficient deposit of lime or calcium phosphate, too much attention cannot be given to the diet of the young child. Further discussion is made in this chapter as to deformities resulting from infantile paralysis and tuberculosis. A wonderful curative force for these diseases is the efficient substitute for sunshine, that is, the ultraviolet ray and the carbon arc light. With wise preventive measures we learn how a great deal of deformity and misery may be avoided. Eight other chapters deal with equally important phases of protecting the health of the child of school age.

This is a book that physicians can recommend to parents and all others who have the sublime privilege and weighty responsibility of teaching young children the relationship of hygiene and health and how the latter may be promoted. L. C.

A very illuminating book is "The Next Age of Man" (Bobbs-Merrill Co.) from the pen of Albert Edward Wiggam. The author has proven himself in every way

capable of handling his subject and the book is written in a style that makes it intelligible and interesting to the layman. The volume is the outcome of a telegram requesting Mr. Wiggam to deliver an address on "Some Aspects of Eugenics" before the Graduate School of the University of Iowa. The lecture was so well received by the scientific men who heard it that Mr. Wiggam has enlarged his discussion into a book in response to the urgent suggestion of a number of friends.

It is Mr. Wiggam's belief that science has recently placed in our hands new and powerful agencies by which man can greatly accelerate his own evolution, and that these discoveries are going to usher in a new age of man. The long sweep of race progress is surveyed and almost every salient aspect of modern life is considered, for "all questions are eugenical questions." Quite an extensive survey is made of the subject of eugenics. This is done to show that eugenics is a social and environmental problem or set of problems, just as much as it is a problem purely of biology and heredity. It is essentially an effort to direct environment so that superiority will survive. Consequently the problem of high social, economic, educational, religious and political leadership is one of the first concerns of eugenics.

In a very able manner the author explains that there are four new goals of education: first, the measurement of the mind; second, the measurement of educational progress so that it may be discernible how much education a man has and how effectively he can use it; third, the adjustment of men and women in industry and in economic and political life; and fourth, the measurement and development of moral character. To all religious people, goodness means conformity to standards of right which have been given them by divine revelation. Morality and Christianity are really synonymous terms and go hand in hand because man would have no means of knowing right from wrong were it not for the standards laid down by the Ruler of the universe.

One of the chief obstacles in the way of the acceptance of the "fact" of evolution, says the author, has been the failure of the biologists themselves to answer the questions which the average man justly advances, one of which is that he cannot see how one species can possibly change into another. As a matter of fact, evolution does not transform dogs into horses, nor has man evolved from a monkey. However, if those who doubt the truth of evolution could only live ever so briefly in

contemplation of the beating, throbbing, pulsating thing we call life, they would never again believe that life itself could possibly be a static thing, but must from its own nature be a manifestation of ceaseless evolution weaving itself by its own dynamics into ever new forms of virtue and beauty and working towards goals higher than its own immediate being.

The book contains quite a lengthy discussion on the subject of the effects of alcohol, tuberculosis, heredity, and environment on life. It is evident that all these are tremendous and pressing problems. Since we have the methods and instruments of science in our hands it is our solemn duty to make use of them in deciding on all social measures. It does not matter whether these social measures be the management of alcohol, tuberculosis, charity, or social welfare in general; we miss the greatest possible ethical opportunity which this new thing, science, offers to man when we do not use its ministrations as our chief instrumentality for bringing to these problems an effective solution.

Under the glow of Mr. Wiggam's illuminating English the conclusions of science shine out as beacons to light man's understanding of the way of life. There is nothing in this book that any reader cannot grasp; nothing that he will care to pass over without a thorough reading; and much—very much—that will concern him deeply.

L. C.

Karel Capek, author of "Krakatib," has written a new book, "The Absolute at Large," (The Macmillan Co.) a book which for high flights of imagination cannot be surpassed. It is a romance replete with exciting incidents, the time of the story beginning in the year 1943. This book shows the same unerring and dramatic instinct and sharp vitality that marked the author's earlier novel.

The story concerns a young engineer who, in an endeavor to find some solution of the problem of coal shortage, discovers a process by which the energies of the atom in coal may be freed from the gross material. He finds these energies so powerful that they burn by slow combustion at the rate of only half a hundredweight to a steamship's journey around the world. He calls the machine a Karburator and he contends that it actually burns up matter, causing its utter combustion so that not even a grain of dust remains. He then assumes that all matter contains what he calls "The Absolute" in some state of confine-

ment. We may call it a latent, imprisoned force, or simply say that as God is omnipresent He is therefore present in all matter and in every particle of matter. The supposition is that, if a particle of matter can utterly be destroyed, there is left an indestructible residue—free and active—the Absolute, or God in a chemically pure form. *The machine can't be stopped*, which explains the terrific force that hurls God as a by-product into the world. The author claims that since we are not accustomed to reckoning with God as a reality, we don't know what His presence might bring about—socially, morally, etc.

Naturally a thing of this kind—the Absolute, as the author calls it—let loose upon the world, affects the whole of human civilization. He says we might put it in this way (only as an hypothesis, of course): That before the creation of all things the Absolute existed in the form of an Infinite Free Energy. For some cogent physical or moral reason the Free Energy began to be creative. It became Working Energy and following the laws of inversion was transformed into a state of Infinite Imprisoned Energy. As a result of the perfect combustion effected by this atomic motor this Infinite Imprisoned Energy is liberated and set free from the material fetters which have held it in captivity; hence it becomes Free Energy or Active Absolute.

This Absolute expressed itself in two ways, the author contends, one of them to some extent traditional and the other distinctly modern. The traditional manner in which it began to exert itself was through the avenues of religion. It embraced all varieties of illumination, inspiration, conversion, moral effect, prediction and religious faith. Here the Absolute burst into the personal and social life of people over paths already well trodden but to an extent hitherto unheard-of. After a few months of its activity there was practically not a single person on earth who had not experienced, if only for a brief moment, that religious shock by which the Absolute made known its presence.

The other form of manifestation of the Absolute at large was something entirely new. It flung itself into manufacture. It did not form something out of nothing but it made finished products out of raw material.

The author weaves a strange spell over the reader in this novel through excitement produced by this marvelous scientific discovery that throws into unparalleled confusion the industrial, political and reli-

gious life of the times. The chaos became so great over the world, however, that all energy had to be summoned to destroy these machines (Karburetors) by which the Absolute was set free and turned loose upon the world.

A more creative work of the imagination can hardly be found than this book. It would be unwise to begin reading it if one's nervous condition is below par. L. C.

Audrey Wurdemann, the fifteen year old daughter of Dr. Harry V. Wurdemann, Seattle, has written poetry since she was a young child. In "The House of Silk" (Harold Vinal, Ltd., New York), her latest offering, there is no suggestion of immaturity; indeed its range is astonishingly wide. There is the delightful childishness of "Miniature"; the gay fantasy of "Gold and Silver Fishes"; the thoughtfulness of "Where Dwell Men"; the serene march of the seasons of "The Cycle." Color is used warmly but with a fine restraint; "The City That Time Forgot" glows and throbs with it. Miss Wurdemann's verses have buoyancy and charm, thought and depth. One looks forward with eager interest to her next collection.

L. S. M.

It is many miles over land and sea from the busy cities and complacent farms of the Missouri River Valley to the wild jungle of southern Asia where abounds the dark striped member of the cat family, the tiger. Yet if one would enjoy the thrill of stalking this feline in its native habitats, without the fatigue of the journey, the sting of mosquitoes or the swallowing of quinine, one has only to spend a few hours with Dr. Richard L. Sutton's book, "Tiger Trails of Southern Asia." (C. V. Mosby Co.) While reclining in the depth of one's library chair in the company of this interesting tale, it is easy to assist in stringing the bait, to sit silently in a boma waiting for the beast to appear. Even the insects may buzz about our heads as we watch with Sutton for the appearance of what would probably be the first tiger we had ever seen outside of a cage.

The Judge, most certainly, is a hunter and would be welcome always on so hazardous an excursion where his deadly aim might divert an evident disaster into another trophy of the chase. Louie DeFosse, the son of the shikari, is a likeable little fellow and well worth the chapter which is devoted to him.

The book contains many interesting observations upon animal and plant life of southern Asia both in Indo-China and in India. The chapters on deer, buffalo, elephants, and snakes are intensely interesting if

not quite as exciting as the ones on tigers. The style is pleasing and the book abounds with evidences of a keen sense of humor. There are many important suggestions to the prospective big game hunter, such as the matter of guns, wearing apparel, food and water supplies, medicine chest and transportation. The illustrations are numerous, very interesting and instructive.

Only once is the author diverted from his avocation. Would any one but a dermatologist have thought to dub an elephant "*Leucoderma aquisatum centrifugum*" just because it had a white speck on its face? G. V. S.

MISCELLANY

THE CHILD'S CHANCE

In the days of Queen Anne, of England, it was unusual for a baby to live. Of seventeen children that were born to the queen herself only one survived more than a year.

That was centuries back but infant mortality declined comparatively slowly until a few decades ago.

Birth rates had to be high if nations were not to have a stationary or diminishing population.

Of every 1,000 babies born in the United States now only 66 die at birth.

Medical education is the answer. Physicians know more and know how to apply their knowledge. Parents are better informed. So the average age span lengthens.

In Kansas City last year 3,000 volunteer workers cooperated with the local children's bureau in a campaign to improve juvenile health. 49,218 visits were made in 26,803 homes. Treatment for defects was given in 10,216 cases. Letters of advice were sent to the mothers of 4,434 newborn babies and the bureau's dietitian made 4,790 personal talks on infant feeding.

That is an index to efforts in hundreds of localities.

The conquest of disease and the banishment of ignorance and superstition have become co-operative responsibilities. Such undertakings no longer are regarded as an intrusion into private affairs.

More mothers keep their children, are happy in their possession, and are less anxious as to the menace of sickness. These are not the least of the comforts of the twentieth century.—*Collier's Weekly*.

OCCURRENCE OF STAPHYLOCOCCUS AU- REUS INFECTION WITH SCARLATINI- FORM RASH

Franklin A. Stevens, New York (*Journal A. M. A.*, June 18, 1927), has observed a number of exanthems in which there was considerable doubts as to the diagnosis. A great majority were proved to be scarlatina streptococcus was not recovered. In rare cases neither the culture nor the skin test gave evidence of scarlatinal infection. In three such cases *Staphylococcus aureus* has been isolated. In these instances the bacteriologic and immunologic data show that the entire picture was the result of infection with staphylococcus.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1927

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

- Camden County Medical Society, December 31, 1926.
Holt County Medical Society, January 21, 1927.
Iron County Medical Society, March 4, 1927.
Madison County Medical Society, March 9, 1927.
Dent County Medical Society, April 2, 1927.
Ralls County Medical Society, April 4, 1927.
Platte County Medical Society, April 7, 1927.
Atchison County Medical Society, April 9, 1927.
Chariton County Medical Society, April 15, 1927.
Montgomery County Medical Society, May 7, 1927.
Vernon-Cedar County Medical Society, August 1, 1927.
Christian County Medical Society, August 3, 1927.
Lafayette County Medical Society, August 11, 1927.
Bates County Medical Society, August 16, 1927.

BATES COUNTY MEDICAL SOCIETY

The Bates County Medical Society held its regular monthly meeting at the Court House in Butler, June 30, in conjunction with that of the Missouri State Tuberculosis Association and was in the form of a clinic.

Dr. George Hoxie, Kansas City, sent to us by the State Tuberculosis Association, held a tuberculosis clinic, the material for which was provided by the various members of the Bates County Society assisted by a nurse sent here by the Tuberculosis Association. About twenty cases of tuberculosis were examined, various phases and findings pointed out to the attending physicians and recommendations made.

This clinic was the first of a series to be held at various points throughout the state under the auspices of the State Tuberculosis Association in connection with the county medical societies. The clinic was very successful and it is believed that such clinics will well fulfill the purpose for which they are held, namely, education of the public and intensive postgraduate work in tuberculosis for the rural physicians.

The meeting was adjourned at the conclusion of the clinic.

Meeting of July 28

The Bates County Medical Society held its regular monthly meeting at the Court House in Butler at 2:00 p. m. Thursday, July 28.

A letter from the secretary of the Cass County Medical Society asking a representative from the Bates County Society to present a paper at a joint meeting in Pleasant Hill, September 8, was read. Upon motion of Dr. E. N. Chastain, Dr. George H. Thiele was selected to act as such representative.

Dr. George Clark Mosher, Kansas City, ad-

ressed the Society upon the subjects of "The Danger of the Curette" and "Eclampsia." Dr. Mosher's remarks were enthusiastically received and led to a full discussion of all types of abortions and of the toxemias of pregnancy.

The date of the next meeting was set for August 25.

GEORGE H. THIELE, M.D., Secretary.

BOONE COUNTY MEDICAL SOCIETY

The regular meeting of the Boone County Medical Society was held at Columbia, August 2, with the president, Dr. Lloyd Simpson, in the chair. The minutes of the previous meeting were read and a motion made by Dr. M. Pinson Neal to amend the minutes to read "unanimously passed" instead of "passed" as in a previous motion.

A letter from Dr. Neal was read thanking the Society for the flowers sent Mrs. Neal during her illness.

A letter from Dr. Goodwin, Secretary of the State Association, was read, expressing his sorrow at Dr. J. E. Thornton's death.

A letter from Dr. Goodwin inclosing a copy of the revised Constitution and By-Laws of the State Association was received by the secretary.

Dr. Nifong gave a very interesting talk, illustrated with stereopticon pictures, on "The Principles of Extension in Fracture of Long Bones."

A general discussion followed.

HUGH P. MUIR, M.D., Secretary.

LAFAYETTE COUNTY MEDICAL SOCIETY

The Lafayette County Medical Society met in the Masonic Hall at Odessa Tuesday, May 10, at 2:30 p. m. The meeting was called to order by the president, Dr. W. E. Koppenbrink. Due to the illness of Dr. Edmund Lissack, the president appointed Dr. Lewis Carthrae, Jr., to act as secretary. Members present: Drs. Odus Liston, Oakgrove; W. C. Webb, W. A. Braecklein and W. E. Koppenbrink, Higginsville; C. T. Ryland and J. Q. Cope, Lexington; R. C. Schooley, W. E. Martin and E. A. Hocfer, Odessa; J. B. Willis, Mayview; Lewis Carthrae, Jr., Corder. Dr. J. De Voine Guyot, Linneus, was a guest of the Society.

On motion Dr. Guyot was given the privileges of the Society.

It was moved, seconded, and carried that the Society meet the deficit incurred at the meeting of the Tri-County Medical Society.

After the regular business was transacted, Drs. Martin and Schooley reported a number of cases of acute mastoiditis complicated with measles, otitis media, nasal and postpharyngeal troubles.

Dr. Liston read an interesting and instructive paper on "Diarrhea."

A helpful discussion entered into by every member present followed the reading of these papers.

It was decided to hold the next regular meeting at Lexington.

LEWIS CARTHRAE, JR., Acting Secretary.

Meeting of June 14

The Lafayette County Medical Society met at the Traders Bank, Lexington, June 14. The minutes of the previous meeting were read and approved. The following members were present: Drs. B. T. Payne, C. T. Ryland, T. R. Butler, G. W. Fredendall, A. J. Chalkley, Lexington; W. C. Webb, W. A. Braecklein, W. E. Koppenbrink, Higginsville; J. A. Mann,

Wellington; E. A. Hoefler, Odessa. Visitor: Dr. J. De Voine Guyot, Higginsville.

The application of Dr. J. De Voine Guyot, Higginsville, by transfer from Linn County was favorably acted upon and he was elected a member of the Society.

Dr. E. A. Hoefler, Odessa, read a very interesting and instructive paper on "Rheumatism" which was freely discussed.

Dr. C. T. Ryland, Lexington, presented a paper on "Some Problems of the Country Doctor of Today."

On motion duly seconded and carried, Drs. Braecklein, Koppenbrink, and Webb were appointed a committee to draw up resolutions on the death of Dr. J. W. Burgess. The expense of the floral offering sent to the funeral of Dr. Burgess by the Society was ordered paid out of the treasury.

Since the day of our regular monthly meetings conflicts with the meetings of the Kansas City Clinical Society, it was moved that the day of our meetings be changed. This motion was duly seconded and carried.

The next meeting of the Society will be held at the Country Club in Lexington.

W. C. WEBB, M.D., Acting Secretary.

Meeting of August 9

The Lafayette County Medical Society met in the Masonic Hall at Odessa, Tuesday, August 9, at 2:00 p. m. Dr. R. C. Schooley, vice president, presided in the absence of the president, Dr. W. E. Koppenbrink. The routine business was dispensed with for this meeting and an interesting program was given.

Drs. Frank J. Hall and Evan S. Connell, Kansas City, gave very timely talks, Dr. Connell reading a paper on "Nose and Throat Conditions."

Dr. P. T. Bohan, Kansas City, conducted a heart and chest clinic which proved very instructive.

The members of the Society and their families were entertained at dinner by the Women's Auxiliary in the parlor of the Christian Church at 5:30 p. m.

EDMUND LISSACK, M.D., Secretary.

ST. LOUIS MEDICAL SOCIETY

Meeting of the General Society, April 5, 1927

The meeting, which was held jointly with the Missouri Mental Hygiene Association, was called to order by the President, Dr. Charles A. Vosburgh at 8:35 p. m. The program consisted of the following:

"Development of Mental Hygiene Work in St. Louis and Missouri," by Dr. Frank R. Fry.

"Local Institutional Facilities," by Dr. J. Wilbur Shankland.

"What a Nation Is Doing and Should Do; Prevention and Research," by Dr. Charles P. Emerson, President of the National Committee for Mental Hygiene.

Discussion by Dr. W. W. Graves.

On motion of Dr. Charles W. Thierry, seconded by Dr. Henrietta A. S. Borck, the following resolutions were adopted:

"WHEREAS, The mental hygiene movement originated and sponsored by the National Committee for Mental Hygiene is of great importance in the establishment, preservation and restoration of mental health in each community, and

WHEREAS, The St. Louis Medical Society and the Missouri Conference for Mental Hygiene in joint meeting on April 5, 1927, recognize the value of modern methods that originated with the National

Committee for Mental Hygiene in establishing, preserving and restoring the mental health of individuals, and

WHEREAS, The City Hospital Observation Ward and the St. Louis Training School and the psychiatric clinic are under the control of the director of Public Welfare of St. Louis, and

WHEREAS, These institutions are utilized in the study of behavior of adults and children, respectively, and are devoted to their mental welfare, and

WHEREAS, The facilities at the St. Louis Training School do not at present embrace opportunities for the training of the negro feeble-minded; therefore be it

Resolved, That the Board of Apportionment and Estimate and Board of Aldermen of the City of St. Louis be advised of the sense of this meeting and value of these organizations to the community, the indispensable service now rendered and the need of further adequate expansion; be it further

Resolved, That the said city representatives be urged to properly provide for the continuation and growth of the psychiatric clinic; and be it further

Resolved, That the said representatives of the City of St. Louis be advised of the great need for the adequate residential school training of the negro feeble-minded dependent child in order that delinquency and dependency be reduced; be it further

Resolved, That the said representatives of the City of St. Louis be informed of the minimum, medical, physical and psychiatric requirements in a modern psychopathic institution, so that such institution shall supplant the present Observation Ward at the City Hospital.

Signed:

Wm. W. Graves
Charles W. Thierry
Geo. B. Mangold
Charles A. Vosburgh
Frank R. Fry."

Attendance 650.

Meeting of April 12, 1927

The meeting was called to order at 8:45 p. m. by the President, Dr. Charles A. Vosburgh. The minutes of the meetings of March 29 and April 5, were read and approved.

The scientific program consisted of the following:
"Explanation of the New Workmen's Compensation Law—A Matter of Interest to Every Practicing Physician," by Alroy S. Phillips, Chairman, Missouri Compensation Commission.

"Experience With the Workmen's Compensation Law in Illinois as Applied to the Medical Profession," by Dr. L. G. Harney, East St. Louis.

Discussion by Drs. Hudson Talbott, R. B. H. Gradwohl, Cleveland H. Shutt, Norvelle Wallace Sharpe, Wm. R. Gum, Arthur H. Deppe, John C. Morfit, Benjamin A. Wilkes, John S. Young, Edwin C. Funsch.

Attendance 100.

Meeting of April 19, 1927

The meeting was called to order at 8:30 p. m. by the President, Dr. Charles A. Vosburgh. The minutes of the previous meeting were read and approved.

The scientific program consisted of the following:
"Hyperemesis Gravidarum," by Dr. William Kerwin.

"Eclampsia—An Analysis of Seventy Five Cases," by Dr. Lee Dorsett.

"Nephritis in Pregnancy," by Dr. Percy H. Swahlen.

Discussion by Drs. Wm. H. Vogt, G. D. Royston, T. R. Ayars; Drs. Kerwin and Dorsett, closing.

Dr. Shutt moved that the meetings of May 3 and 17 be dispensed with as the annual meetings of the State and American Medical Associations occur on these dates. Seconded by Dr. Mayes. Carried.

Dr. Funsch moved that the President be empowered to appoint a committee to act in an advisory capacity to the Missouri Compensation Commission, the President to be a member of the committee. Seconded by Dr. Pickrell. Carried.

Attendance 175.

Meeting of April 26, 1927

The meeting was called to order at 8:35 p. m. by the First Vice President, Dr. John Green. The minutes of the previous meeting were read and approved.

A case of "Pernicious Anemia" was presented by Dr. Wm. Engelbach.

The regular scientific program consisted of a symposium on intravenous therapy as follows:

"The Therapeutics of Blood Transfusion," by Dr. George Ives.

"The Present Status of Intravenous Therapy in Septicemia and Other Infections," by Dr. J. Curtis Lyter.

"Intravenous Therapy; Its Use and Abuse," by Dr. Llewelyn Sale.

Discussion by Drs. Wm. Engelbach, H. H. Helbing, Jerome E. Cook, Henry Jacobson; Drs. Ives, Lyter and Sale closing.

A letter was read from Dr. Ralph A. Kinsella, Chairman of the Citizens' Committee for the Promotion of St. Louis Health Activities, requesting that Dr. C. H. Shutt be appointed to represent the St. Louis Medical Society on this committee.

On motion of Dr. R. B. H. Gradwohl, seconded by Dr. J. Curtis Lyter, Dr. Kinsella's request was granted.

Dr. Charles A. Thierry presented the following resolution, which on motion, was adopted:

"WHEREAS, There has recently been made by the present State Administration a departure from principles in the organization and conduct of the State Eleemosynary Board,

"WHEREAS, Such principles, which have been set aside, have had the approval and support of far thinking individuals and agencies and have stood the practical test of time,

"Whereas, The St. Louis Medical Society at its meeting of April 26, 1927, recognizes inherent medical and social interests in the principles affecting the management of the State Eleemosynary Institutions and the care of the sick and afflicted citizens confined therein, there being now six thousand persons of the State distributed in the several institutions, known as State Hospitals for the Insane, Epileptic Colony and the Sanatorium for Tuberculosis,

"WHEREAS, These individuals deserve the best that medical science has to offer in medical and custodial care,

"WHEREAS, There is only one criterion for proper medical service in these institutions, namely adequate fitness and training,

"WHEREAS, This Society has no interest in behalf of any of the personnel of these institutions, therefore be it

"Resolved, That the St. Louis Medical Society does not approve and does vigorously protest against

the recent changes made in the operation of the Eleemosynary Board; be it further

"Resolved, That the delegates of the St. Louis Medical Society to the State Convention to be held May 2, 1927, be instructed to assist in the furtherance and adoption of proper resolutions and action of the part of the State Association."

Attendance 175.

Meeting of May 10, 1927

The meeting was called to order by the President, Dr. Charles A. Vosburgh, at 8:45 p. m. The minutes of the previous meeting were read and approved.

The following cases were presented:

"Extrophy of the Bladder with Ureteral Transplant," by Dr. Hudson Talbott.

"Blood Specimens, showing Reticulation of Red Blood Cells, the Fragility Test, and the Blood Serum Icteric Index," by Dr. George Ives.

The regular scientific program consisted of the following:

"Congenital Hemolytic Jaundice—Splenomegaly; Report of Seven Cases," by Dr. Louis H. Behrens.

"The Functions of the Spleen in Relation to Diseases," by Dr. David Barr.

"The Surgical Condition of Splenomegaly," by Dr. M. B. Clopton.

Discussion by Drs. Oliver Abel, H. L. Alexander, George Ives; Dr. Behrens closing.

Dr. C. H. Shutt presented the following resolutions and moved that they be adopted. Seconded by Dr. Behrens:

"WHEREAS, There has been agitation for a number of years regarding a City Hospital for negroes, and the colored patients were finally removed from the main City Hospital to a separate location, and this plan has been followed for about seven years with much dissatisfaction to the colored patients, and

"WHEREAS, The members of the St. Louis Medical Society understand that there is further agitation to move the colored patients to a new hospital, to be erected in northwest St. Louis, and this plan would not remedy the underlying defects of organization, efficiency and economy, and

"WHEREAS, We understand that savings in combined kitchen and commissary, laundry, laboratories, X-ray and radium departments, power plant, etc., will amount to not less than \$60,000 per year, and a saving of over \$250,000 in the cost of erection of additional power plants, laundry, laboratories, etc., which is important but not more so than the guaranty of equal service for both colored and white which only combined location and single management can afford; be it therefore

"Resolved, That the hospital for colored patients should be erected adjacent to City Hospital No. 1 and conducted under the same general management. The standards of care should be the same for both colored and white patients. The colored people should have colored nurses, internes and a colored assistant superintendent in charge—but in the interests of service and economy the management should be vested in one head for both types of patients; be it further

"Resolved, That a copy of these resolutions be forwarded to the Honorable Mayor, the Director of Public Welfare, the President of the Board of Aldermen and the City Comptroller."

Dr. Norvelle Wallace Sharpe offered an amendment to the effect that the newspapers of St. Louis receive a copy of the resolutions. Carried.

Attendance 175.

Meeting of May 24, 1927

The meeting was called to order at 8:50 p. m. by the First Vice President, Dr. John Green. The minutes of the previous meeting were read and approved.

The scientific program consisted of the following: "Presentation of an Extension Splint for Fractures of the Forearm, with Lantern Slides," by Dr. Willis Young.

Discussion by Drs. Francis Reder, Louis Rassieur; Dr. Young closing.

"The Peritoneum and Its Reaction to Infections," with lantern slide demonstration, by Dr. J. W. Kennedy, of Philadelphia, introduced by Dr. Kirchner.

Discussion by Drs. Francis Reder, W. C. G. Kirchner, C. H. Shutt, Louis Rassieur, Edwin J. Schisler; Dr. Kennedy closing.

The following resolution, which was introduced by Dr. Joseph Grindon, was adopted:

"The St. Louis Medical Society learns with regret of the painful injury suffered by its esteemed ex-president, Dr. George Homan. We tender Dr. Homan our heartfelt sympathy and our earnest wishes for his speedy and complete recovery."

Attendance 125.

Meeting of May 31, 1927

The meeting was called to order at 8:45 p. m. by the President, Dr. Charles A. Vosburgh. The minutes of the previous meeting were read and approved.

Dr. F. M. Pottenger, of Monrovia, California, who was the guest of the Trudeau Club, was introduced by Dr. Boisliniere and gave a talk, with lantern slide demonstration, on "The Evolution of Pulmonary Tuberculosis and Its Early Diagnosis."

Discussion by Drs. L. C. Boisliniere and Lawrence Schlenker; Dr. Pottenger closing.

Attendance 250.

ROLAND S. KIEFFER, Secretary.

Meeting of the Council April 13, 1927

The meeting was called to order at 8:20 p. m. by the President, Dr. Charles A. Vosburgh. The minutes of the previous meeting were read and approved.

The report of the Library Committee was read by Dr. F. O. Schwartz.

On motion the report was accepted and approved.

A letter from the Ophthalmic Section and a copy of resolutions, passed at the meeting of that body, April 8, dealing with the State Optometric Convention to be held in St. Louis on April 18, 1927, were read by Dr. Schwartz.

It was moved by Dr. Unterberg, seconded by Dr. Mayes, that the Council approve these resolutions, excepting that paragraph which has to do with publication in the daily press.

This motion carried with Dr. Schlueter voting no.

It was moved by Dr. Unterberg, seconded by Dr. Mayes, that the secretary be directed to write a letter to the Health Commissioner of St. Louis notifying him of the Council's approval of the action of the Ophthalmic Section and to call his attention to its disapproval of the last paragraph of these resolutions.

This motion also carried, Dr. Schlueter not voting.

The report of the Membership Committee was read by Dr. Clarence Martin.

It was moved by Dr. Bailey, seconded by Dr. Unterberg, that the applicants recommended for membership be voted on collectively. Carried.

The following were elected to membership:

Active—Drs. Frank J. Schwartz, 5530 Virginia Avenue; Francis H. Aid, 6229 Delmar Boulevard; Leo J. Reilly, 1203 Missouri Building. Junior—Emanuel Sigloff, Jewish Hospital.

An application from Dr. Merle Bone, 1492 Hodiarnont Avenue, for active membership by transfer was read for the first time.

A letter from Dr. John C. Morfit, tendering his resignation as chairman of the Building Committee, member of the Council, and Delegate to the Missouri State Medical Association, was read.

It was moved by Dr. Bailey, seconded by Dr. Unterberg, that Dr. Morfit's resignation be accepted and that the secretary be instructed to express the regrets of the council. Carried.

The President submitted the name of Dr. Frank J. V. Krebs to fill the vacancy thus created on the Council until the next election.

It was moved by Dr. Bailey, seconded by Dr. Funsch, that this recommendation be accepted. Carried.

It was moved by Dr. Unterberg, seconded by Dr. Mayes, that the Building Committee be discharged in view of the fact that its function has been fulfilled. Carried.

It was moved by Dr. Unterberg, seconded by Dr. Bailey, that a committee be appointed to undertake and carry out the completion of the financing of the buildings. Carried.

The report of the Program Committee was read and on motion accepted.

The report of the Endowments Committee was read and on motion accepted.

The report of the Ethics Committee was read and on motion accepted.

The report of the Necrology Committee was read and on motion accepted.

The report of the Treasurer was read and on motion accepted.

An analysis of the present status of the Building Fund was presented by Dr. Vosburgh for the information of the Council. No action was taken.

The report of the Committee on Permanent Award of Merit was read by Dr. Bailey.

On motion of Dr. Mayes, seconded by Dr. Leighton, the report was accepted and the committee's selection of the medal to be presented was approved.

Suggested changes in the By-Laws were read and referred to the Committee on Revision of Constitution and By-Laws for action.

Councilors present: Drs. Bailey, Unterberg, Leighton, Mayes, Schlueter, Funsch, Neilson, Hill, Vosburgh, Kieffer. Councilor excused: Dr. Blair. Councilors absent: Drs. Ravold and Reder.

Visitors present: Drs. F. O. Schwartz, Clarence Martin.

Meeting of May 11, 1927

The meeting was called to order at 8:30 p. m. by the President, Dr. Charles A. Vosburgh. The minutes of the previous meeting were read and approved.

On motion the regular order of business was dispensed with.

The Treasurer's report was read by Dr. Payne and on motion accepted.

The report of the Membership Committee was read by Dr. Martin recommending the following applicants, all of whom were elected:

Active: Drs. Francis John Canepa, 1237 N. Taylor Ave.; H. W. Harper, Jr., 410 Metropolitan Bldg.;

W. H. White, 4064 Olive Street; William F. A. Schultz, Wall Bldg.; Roland W. Stuebner, St. Mary's Hospital; John S. Ziegelmeier, 1734 Chouteau.

Junior: Drs. Harry G. Bristow, 2801 Watson; John C. Cottrell, City Hospital; Jerome Diamond, Jewish Hospital; Edward J. Helbing, City Hospital; John W. Hotz, City Hospital; Paul L. Jones, Jewish Hospital; Edward E. Kaplan, Jewish Sanatorium; James Knott, Jewish Hospital; Jerome S. Levy, Jewish Hospital; Chas. D. Magee, 330-333 Univ. Club Bldg.; Frank G. Mays, Mo. Baptist Sanatorium; Paul Murphy, City Hospital; Edmund R. Sheridan, City Hospital; Robert H. Simpson, City Hospital; A. P. Smith, City Hospital; G. F. Sneed, Jewish Hospital; Francis G. Weinell, 1203 Missouri Bldg., and Henry C. Westerman, City Hospital.

An application from Dr. Merle Bone, 1492 Hodiarnont Avenue, for active membership by transfer was read for the second time and he was elected to membership.

The report of the Library Committee was read by the secretary and on motion accepted.

The report of the Program Committee was read by the secretary and on motion accepted.

Dr. Vosburgh reported, for Dr. Bailey, that the Disaster Relief Committee had not been called on to send medical aid to the flood district, and that the situation at Poplar Bluff, Missouri, was satisfactory. The report was accepted.

Councilors present: Drs. Funsch, Hill, Krebs, Neilson, Reder, Unterberg, Vosburgh, Mayes, and Kieffer. Councilors absent: Drs. Ravold, Bailey, Schlueter, Leighton. Councilor excused: Dr. Blair.

Visitors present: Drs. R. J. Payne, Clarence Martin, O. A. Ambrose, and A. H. Diehr.

ROLAND S. KIEFFER, Secretary.

WOMEN'S AUXILIARY

OFFICERS 1927-1928

President, Mrs. William M. Bickford, Marshall
President-Elect, Mrs. Willard Bartlett, St. Louis.
1st Vice President, Mrs. A. W. McAlester, Kansas City.

2nd Vice President, Mrs. W. T. Martin, Albany.

3rd Vice President, Mrs. T. O. Klingner, Springfield.

4th Vice President, Mrs. M. P. Ravenel, Columbia.

Corresponding Secretary, Mrs. L. S. James, Blackburn.

Recording Secretary, Mrs. M. A. Hanna, Kansas City.

Treasurer, Mrs. T. J. Draper, Warrensburg.

Directors (2 years): Mrs. A. B. McGlothlan, St. Joseph; Mrs. D. S. Long, Harrisonville; Mrs. George H. Hoxie, Kansas City; Mrs. Frank Hinchey, University City; Mrs. C. T. Ryland, Lexington (1 year); Mrs. M. P. Overholser, Harrisonville; Mrs. H. F. Parker, Warrensburg; Mrs. R. W. Berrey, Mexico; Mrs. J. G. Montgomery, Kansas City; Mrs. W. F. O'Malley, Webster Groves.

BATES COUNTY AUXILIARY

The Women's Auxiliary to the Bates County Medical Society met Thursday, June 30, at the home of Mrs. T. W. Foster, Butler.

As there were no business matters of importance to be disposed of, the afternoon was spent in a so-

cial way. Delicious refreshments were served by the hostess.

The Society decided not to hold any meetings during the months of July and August. The next meeting will be held in September.

Mrs. J. S. NEWLON, Secretary.

CLAY COUNTY AUXILIARY

We claim seniority in the state for the Women's Auxiliary of the Clay County Medical Society. Long before the organization took definite form over Missouri the wives of the physicians of Clay County Medical Society met with them and grouped themselves automatically with committees on entertainment and for general society betterment. This was before a state auxiliary was even thought of. We liked the plan, men and women all. Other counties saw our initiative and began to play trumps to our lead—if you will permit our perfectly fraternal boast.

There was a time when four or five members constituted a good attendance at Clay County Medical Society meetings. These were held at our county seat, Liberty, and those of us who remember love to sit on the porch in the evenings, close the eyes and "tune in" on the radio stations that are enumerated in years ago. Very dear, those memories—but the world does move! Progress, inexorable in its demands, has us in its vise-like grip, painful at times, yet permitting grudgingly the reward of ceaseless, earnest effort, the joy of professional attainment.

Perhaps the noonday luncheon was responsible for our first auxiliary meeting, but that is so far back that I cannot really recall. Ever since that time friend wife has been looking forward to the county society meeting, anticipating it keener if possible that we of the whiskers—actually prodding us up a little in the matter of baggy knees and the highly domestic crisis of another dollar's worth of sugar for the gooseberry pie and the angel food cake. And that's not all; why, at our last meeting, they arranged for the reading of a magnificent paper on the life of our beloved Osler, and had it read to us proper! Showed us, as it were.

Our Auxiliary, aside from being the pioneer of the state, has a membership that is alive, each a unit of the organization, and our interest and attendance have quadrupled since the wives have been enlisted. Pardon us if we suggest that as well as the oldest we have the handsomest, most active, best, busiest—O, why can't I think of the word I want? It is the longest, best sounding word in the language.

The Women's Auxiliary has come to stay. The emancipation of the Clay County Doctor's wife is complete. Our array of auxiliary officials is one to be proud of: President, Mrs. F. H. Matthews, Liberty; first vice president, Mrs. J. H. Rothwell, Liberty; second vice president, Mrs. H. Rowell, Kearney; third vice president, Mrs. S. D. Henry, Excelsior Springs; secretary-treasurer, Mrs. J. E. Musgrave, Excelsior Springs. Their secretary, I have not the least doubt, will cheerfully reply to any county societies who desire information as to methods of organization or work. A stamped, self-addressed envelope should be enclosed.

J. J. GAINES, M.D.

DAVISS COUNTY AUXILIARY

The wives of the doctors of Daviess County met in called session and under the supervision of Mrs. W. T. Martin, Second Vice President of the Women's Auxiliary of the State Association, organized an Auxiliary for Daviess County. The following officers were elected: President, Mrs. L. R. Doolin,

Gallatin; recording secretary, Mrs. P. L. Gardner, Gallatin; corresponding secretary, Mrs. A. G. Minnick, Lock Springs.

N. W. WETZEL, M.D.

LAFAYETTE AND SALINE COUNTY AUXILIARIES

The Tri-County Medical Society, which embraces the societies of Lafayette, Saline and Cooper counties, met at the Frederick Hotel, Boonville, on the evening of July 12, and on invitation of the Tri-County Society the Women's Auxiliaries to Lafayette and Saline counties met with them. The wives of the Cooper county physicians, who are not yet organized, also attended the meeting.

After a three course chicken dinner in the banquet room, the women met on the spacious veranda of the hotel. Mrs. A. E. Gore, Marshall, Saline County's efficient president, endeavored to organize an auxiliary to Cooper County but the Cooper County women were not prepared to form an organization at this time. We hope this splendid group of women will soon decide to come into the Auxiliary.

MRS. L. S. JAMES,
Corresponding Secretary.

BOOK REVIEWS

NOUVEAU TRAITE DE MEDECINE. Fascicule IX. Affections du Sang et des Organes Hématopoïétiques. By G. H. Roger. 1 volume grand in-8 de 802 pages avec 184 figures, et 8 planches en couleurs. Masson Et Cie, Editeurs. 120, Boulevard Saint-Germain, Paris. 1927. Price 80 francs.

The authors of this volume are Aubertin and Mouquin on the Pathology of the Red Cells and Polycythæmia; A. Clerc on the Pathology of the White Cells, Leucocytosis, Leucemia; P. E. Weil on the Hemorrhagic Affections and Hemophilia; Sourd and Pagniez on Purpura; P. E. Weil on the Pathology of the Bone Marrow; Aubertin and Kindberg on the Pathology of the Spleen.

The chief value to an American practitioner of this standard French system of medicine is that it gives us a view of familiar subjects from a standpoint utterly foreign to our way of thinking. It is a good thing for an American practitioner to read a French text once in a while in order to get a different viewpoint and to learn how he has been over-emphasizing certain aspects of a given disease. Similarly it is of value if it teaches him that the methods in vogue in his vicinity are not any better in results than the very different methods which are obtaining good results in other countries.

The literature of the American and English writers is fairly well presented. Of course the latest current literature of America is not to be found in this volume.

G. H. H.

NEW AND NONOFFICIAL REMEDIES, 1927, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1927. Cloth. Price, postpaid, \$1.50. Pp. 473 XLVII. Chicago. American Medical Association.

The appearance of the annual edition of New and Nonofficial Remedies is looked upon as an event among all those interested in drugs and their therapeutic use. The text is so carefully scrutinized and revised each year by the various members of the

Council on Pharmacy and Chemistry that each issue is essentially a new book, a safe guide to the frontier that lies between the official drugs and the latest preparations launched by the pharmaceutical manufacturers.

The mechanism of the book is excellent; each preparation is classified, and each classification is preceded by a general and critical discussion of the group by one who is an authority on the subject; there is an exhaustive index not only to the contents of the book, but also, separately, to the literature concerning the host of preparations that the Council has found unacceptable for inclusion. A glance at the book shows that the most important single revision this year is that of the general article on Lactic Acid-Producing Organisms, which has been radically revised and rewritten to show the present status of therapy in this field. Further perusal shows that many preparations have been omitted. The preface explains that many of these have been omitted because the manufacturers or distributors have not presented evidence to demonstrate their continued eligibility. Some have been omitted because they have become official articles by inclusion in the tenth edition of the U. S. Pharmacopeia; such articles, when marketed under the pharmacopeial name or synonym, and without special claims, do not require description in New and Nonofficial Remedies.

Among the preparations newly admitted to the book are: Isacen, a product related to phenolphthalein; Ipral, a barbitol hypnotic; a cod liver oil concentrate having a definite vitamin A and vitamin B potency; and three erysipelas streptococcus anti-toxin preparations.

New and Nonofficial Remedies is indispensable to any physician who prescribes drugs. It contains information about medical products which cannot be found in any other publication.

THE SURGICAL CLINICS OF NORTH AMERICA (Issued serially, one number every other month.) Volume 7, number 3. (Chicago Number—June, 1927.) 330 pages with 81 illustrations. Per clinic year (February 1927 to December 1927.) Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London. W. B. Saunders Company.

This number contains numerous demonstrations from the surgical clinics of the Chicago hospitals. It is illustrated with many half tones and drawings that add much to the value of the text. The practical value of this publication is well maintained.

SURGICAL APPLIED ANATOMY. By Sir Frederick Treves, Bart. Eighth edition, revised by C. C. Choyce, C.M.G., C.B.E., B.Sc., N.Z., M.D. Edin., F.R.C.S. Eng. Illustrated with 162 figures including 66 in colour. Lea & Febiger. Philadelphia and New York. 1927. Price \$4.00.

Opening the eighth edition of Treves' Surgical Applied Anatomy is like meeting an old friend. The book contains much valuable information for ready reference and is deserving of a place in any medical library.

J. G. H.

A MANUAL OF MATERIA MEDICA FOR MEDICAL STUDENTS. By E. Quin Thornton, M.D., Assistant Professor of Materia Medica in The Jefferson Medical College, Philadelphia. Second edition, thoroughly revised. Lea & Febiger, Philadelphia. 1927. Price \$4.50.

This is a very fair manual of materia medica useful for ready reference.

H. L. J.

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E. J. GOODWIN, M.D., EDITOR
901 Missouri Building, St. Louis, Mo.

PUBLICATION } T. W. COTTON, M.D., Chairman
COMMITTEE } C. B. FRANCISCO, M.D.
 } M. A. BLISS, M.D.

ORIGINAL ARTICLES

MYOMA OF THE SPERMATIC CORD^{1*}

WITH REPORT OF SIXTH CASE

W. E. LEIGHTON, M.D.

ST. LOUIS

Solid tumors of the spermatic cord are dignified by no more than a brief paragraph in any modern work on urology or surgery. This would lead one to infer that such tumors are of rare occurrence. While this is true of myoma, of which there are only five true tumors on record, it is hardly true in the case of other tumors for up to the present time there have been reported a fairly large number of solid tumors of the spermatic cord.

In December, 1919, I removed a tumor of the spermatic cord which on examination proved to be a leiomyoma.

REPORT OF CASE

Past history. H. H., age 47, married. Usual diseases of childhood. Venereal. Neisserian infection 25 years ago. Chancre 15 years ago. 18 months treatment.

Present illness. Four months ago he noticed a kernel in the left groin which caused no pain until the day he came to hospital complaining of a dull pain radiating up the groin. No urinary difficulty. Sexually not as potent as formerly.

Status praesens. He has lost no weight and the appetite is good. He sleeps well and bowels are regular.

Examination. The left inguinal canal is occupied by a hard tumor mass which extends downward to the scrotum. The mass ends at the lower third of the scrotum in a soft, fluctuating, moderately filled sac. The testicle cannot be differentiated by palpation. Transillumination of the sac shows the upper part of soft mass to be translucent and the lower part opaque. The testicle can be outlined. The tumor undoubtedly is not connected with the testicle or epididymis.

General physical examination. Well developed and nourished male of medium stature. There is no evidence of malnutrition or cachexia. Teeth bad. Eyesight is impaired and he wears glasses. Heart

and lungs negative. Blood pressure 120/60. The abdomen shows nothing abnormal except the tumor mass in groin. Rectal examination shows a moderately enlarged prostate. No bladder symptoms and urine is negative. Mentally clear. All reflexes are normal.

Diagnosis. Sarcoma of the spermatic cord.

Operation. December 12, 1919. The usual hernia incision was made and prolonged on to scrotum. A small hernial sac was freed from the upper end of the cord, opened for inspection and then ligated and excised. The tumor mass was firmly adherent to the lower part of Poupart's ligament and the ligament was removed with the tumor and testicle. Several

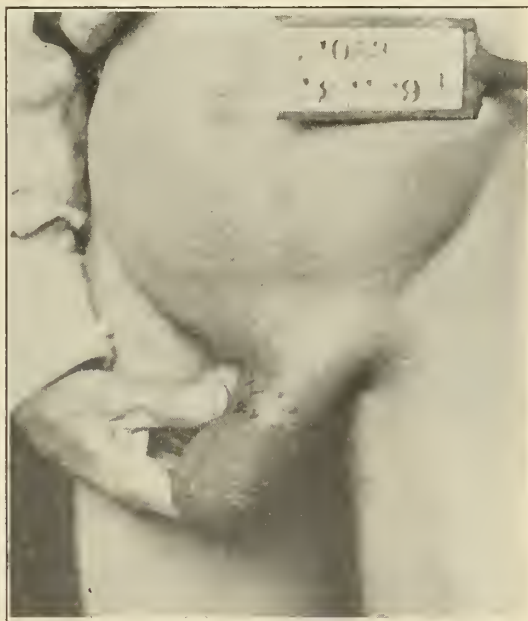


Fig. 1. Myoma of the spermatic cord.

inguinal glands with surrounding fat were removed. A repair of the hernia was then done, the muscles being imbricated after the method of Andrews. A rubber dam drain was left in lower angle of wound.

Pathological examination. The specimen consists of a tumor very firm in consistency, definitely encapsulated, measuring about 11 cm. in the greatest length and about 6 cm. in greatest breadth. It is firmly attached to the parietal layer of the tunica vaginalis. The testicle has been removed with the mass but appears normal. The cord passes directly into the mass. On section the tumor appears to be made up of coarse interlacing bundles of smooth

1. From the Surgical Department of The Barnard Free Skin and Cancer Hospital and St. Louis University.

*Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

muscle tissue. There is also a mass composed of various sized inguinal glands which was removed with tumor.

Microscopic diagnosis. Myoma, probably from the vas. deferens. Glands were negative.

Patient discharged healed, Jan. 10, 1920.

My interest in the subject was aroused by this report and on looking over the literature I found a number of interesting reviews upon the subject, although I could find nothing in any textbook or system of surgery or urology, other than a brief statement of the possibility of the occurrence of such tumors as lipomata, fibromata, myomata, sarcomata, carcinomata and mixed tumors.

Historical data. Cloquet in 1819 was the first to mention a fatty tumor although upon analysis in the light of our present knowledge, this is now considered to be a case of hernial lipoma. Curling, in 1857, in his treatise on diseases of the testicle, cord and scrotum, described at length tumors of the cord and cites several cases of fatty tumor. Poisson in 1858 was the first to describe a fibroma. In 1859



Fig. 2. Cross section of myoma shown in Fig. 1. Note whirls.

Nelaton described a case of carcinoma of the cord. This is rare as a primary tumor but often follows a carcinoma of the testicle. Daniel Molliere about 1880 described three classes of solid tumors of the cord, lipomata, fibromata, and malignant tumors. Brossard in 1884 published the first complete work upon the subject in the *Archives General de Medicine*. He classified tumors of the spermatic cord as benign and malignant tumors. Under benign tumors he mentions lipoma, fibroma, myxoma and gumma. Under malignant tumors he recognized sarcoma and carcinoma. He made no mention of myoma although such a case had been observed by Trelat in 1880. Harricourt in 1885 described two cases of myoma of the epididymis, which was followed

in the same year by Terrillon with a description of a fibromyoma of the epididymis. In 1885 Watson published an excellent paper upon benign tumors of the cord and the differential diagnosis from hernia.

Following these pioneer observations there appeared several studies on the pathology of lipomata and a number of observations on tumors of the cord in general. Portalier in 1908 contributed a comprehensive thesis on leiomyoma of the spermatic cord and came to the conclusion that they arose from the junction of the vas and epididymis; in this he was supported by Patel and Chalier who, in 1909, reviewed all the previous reports. They made the most complete analysis up to that time and were able to collect 110 cases of tumor of the spermatic cord as follows: lipomata 37, sarcomata 22, mixed tumors 33, fibromata 12, myomata 5, carcinoma 1.

The next paper of moment on myoma was published by Schuessler in 1916 who carefully analyzed the cases. From the study of a case in his own service he considers that they arise from the smooth muscle fibers of the cremasteric internus of the tunica vaginalis communis and are independent of either the vas or epididymis. The latest review of the literature was made by Hinman and Gibson and appeared in the *Archives of Surgery* in 1924 with a most comprehensive study of spermatic cord tumors.

From this study I have been able to collect only five cases of true myoma of the spermatic cord and epididymis which with the case I have just reported make a total of 6 cases.

Symptoms and growth. The symptoms of myomata of the spermatic cord are not characteristic. Except for the presence of a tumor, which may be annoying because of a feeling of weight and slight drawing pain in the groin, symptoms are lacking. Their presence as a rule depends upon the size of the tumor. The growth of the tumor is slow and insidious. The tumors are not painful as a rule so that the exact date of onset is not recognized and is often attributed to trauma. They do not grow to the size of other solid tumors of the cord. Myomas are the smallest tumors of the cord, varying in size from a walnut to a small orange. The tumor is firm and elastic to touch, the surface round and regular in outline. They appear to arise from the junction of the vas and epididymis and tend to attach themselves to the tunica, giving rise in some cases to a hydrocele. The age has varied from infancy to 54 years. A Neisserian infection had occurred in four of the cases, two of which also had acquired syphilis.

Diagnosis. Myomata are the smallest tu-

mors of the spermatic cord. They are slow growing and rarely cause symptoms except for the presence of a tumor. They may be differentiated from lipoma, fibroma and sarcoma as follows: Lipomata are soft and lobulated and tend to grow to excessive size without any other symptom except that due to its weight; the scrotal skin is not adherent to the tumor. Fibromata are very hard, smooth and regular; they may also grow to very large size; the skin of the scrotum is not attached although the vessels are often enormously dilated and edema may be present. Sarcomata are hard and irregular and tend to increase rapidly in size; they may be accompanied by hydrocele or hematocele; the skin of the scrotum may become attached to the tumor and ulcerate; there is often no glandular enlargement or disturbance of the general health.

Treatment. The treatment is surgical. When possible, the tumor alone may be removed but if it becomes closely adherent to the structures of the cord so that it is impossible to separate it the testicle must be sacrificed.

Beaumont Medical Building.

DISCUSSION

DR. H. McCLURE YOUNG, St. Louis: Tumors of the spermatic cord are of great interest. As Dr. Leighton has pointed out, they are rare. For that reason it is necessary in approaching every case to have a pretty clear idea of all the possibilities in the situation. So many of them are complicated, as this one was, I understand, by more or less of a hydrocele. That makes the examination difficult. One method of examination that often will suggest itself is to tap the hydrocele; then you can palpate more satisfactorily. If you are perfectly confident that you are not dealing with a malignant condition tapping the hydrocele is all right; but if you are dealing with a malignant condition there are certain objections to doing so. In every case of hydrocele with some lesion of the testicle or the cord we may think the wisest thing to do is to operate on that hydrocele, and then at operation we will have to decide what to do with that testicle.

Few of us see enough of these cases to judge from our own experience and therefore we should have a good textbook knowledge of all the conditions that may be present in order to be in position to decide what we are going to do.

The most dangerous condition is teratoma of the testicle. That is very often difficult to distinguish from other lesions. It has been mistaken for tuberculosis; the question of syphilis may also arise. So if dealing with the possibility of a teratoma we must try to exclude all other lesions before we operate and at the operating table, if we are in reasonable doubt, we had better go ahead and sacrifice that testicle.

I really don't feel that a surgeon who sacrifices a testicle under those conditions, even if the microscopic examination fails to prove that it is malignant, should be criticized. He is dealing with a pathological condition at any rate and it is a question of saving the patient's life. The teratoma generally begins just at the junction of the epididymis

inside the testicle where the epididymis comes off, and a hard nodule in that particular region is exceedingly suspicious.

Extensive operations have been recommended and some of them, I believe, have been successful, removing glands all the way up into the pelvis. My own experience with teratoma (I have not had one such as Dr. Leighton has described) has been that it is an exceedingly difficult condition to cure. You may go to the operating table not quite certain what the condition is, but you feel that the thing should be taken out without first splitting it or anything of that kind. If there is a suspicion of malignancy you don't want to do that. You want to take the testicle right out, and as much of the cord as you can get. Shortly afterward if you have these patients X-rayed, you are apt to find metastases in the chest and the abdomen. A careful X-ray study of the entire body may enable you to discover these metastases in suspected cases of malignancy in the testicle.

This case is exceedingly interesting and I think such cases, being as rare as they are, should always be reported.

FOREIGN BODY IMPACTED IN LOWER AIR AND FOOD PASSAGES*

REPORT OF FIFTY ONE CASES

MILLARD F. ARBUCKLE, M.D.

ST. LOUIS

The accompanying case reports have been arranged according to the plan suggested by Jackson.¹ A few cases with points of special interest are reported in detail.

REPORT OF CASES

Case 1. Foreign Body 31. R. H., age 34 years, male. Referred by Dr. Evarts A. Graham and Dr. J. J. Singer, Nov. 28, 1923, as a foreign body suspect with request for diagnostic bronchoscopy.

There was a history of a sudden attack of choking and severe coughing seventeen months previously, while eating pork hash. He wheezed all that night and the next day. A physician was seen the following day but failed to locate the cause of the respiratory difficulty. Since then he had been troubled with cough, productive in nature, fever and loss of weight. He reported that he had had seventeen physicians treat him for tuberculosis, lung abscess, chronic bronchitis, etc.

Physical examination showed an area of dullness over the base of the right lung. X-ray examination revealed a shadow in the region of the right base. Bronchoscopic examination disclosed large granulations bathed with pus and filling the lower portion of the right main bronchus. The granulations were removed with a Jackson side grasping forceps and suction was applied to remove pus and blood. A foreign body was then seen. It filled the lumen of the bronchus and moved with respiration. It was grasped and removed and was found to be a part of the body of the vertebra which is attached to a pork chop. Immediate improvement followed the

*From the Department of Otolaryngology, Washington University Medical School, St. Louis.

1. Transactions of the American Laryngological, Rhinological and Otolological Society, 1923, p. 441.

operation. There was a slight elevation in temperature the day before the operation but it remained normal following the operation and at the end of the third week he had gained thirty pounds.

Case 2. Foreign Body 23. E. M., age 16 months. Admitted to St. Louis Children's Hospital May 25, 1923, with laryngeal diphtheria.

Intubation became necessary and reintubation was done eleven times. Because of difficulty in reintubation a tracheotomy was done one month after admission. Stricture of the larynx followed the tracheotomy and almost total obstruction of the larynx occurred as the result of a web formation at the level of the cricoid cartilage. Respiration was carried on entirely through the tracheotomy tube. The laryngeal lumen was reestablished by incision and dilatation of the scar but the child apparently had forgotten how to breathe through his larynx. Jackson's method of teaching² the patient to breathe through the larynx by gradually stopping the tracheotomy tube with a rubber cork, ground off on one side, was employed. By accident one day the rubber stopper was placed in the tracheotomy tube while the inner tube was not in position, whereupon the stopper was immediately aspirated into the trachea. X-ray plate demonstrated an obstructive emphysema of the right, middle, and lower lobe. The cork gradually worked down until it was wedged in a dorsal branch of the right lower lobe bronchus just above the level of the diaphragm. From this location it was recovered with a small Jackson side grasping forceps with fluoroscopic aid.

Case 3. Foreign Body 3. P. E. W., age 26, male. Referred by Dr. F. C. Simon. Admitted to Barnes Hospital January 15, 1926, with a history that while working on a tooth that morning a dentist had acci-



Fig. 2. Rubber stopper, Case 2.

dently dropped a broach in his mouth and that it had been aspirated. There was no sign of coughing or choking at the time of the accident. X-ray plate showed the broach in the right main bronchus. (Fig. No. 3.) He was extremely frightened and would not relax for the introduction of the bronchoscope until ether anesthesia was administered. Through a 9 mm. Jackson bronchoscope, the broach was found in the right main bronchus at the level of the lower lobe bronchus. It had perforated the mesial wall of the right main bronchus and was dangling in this position. The broach was grasped by the shaft with a Tucker pin forceps near the point of entry in the bronchial wall, pushed downward to free it, and then drawn into the bronchoscope and removed. Recovery was uneventful.

2. Jackson, Chevalier: *Bronchoscopy and Esophagoscopy*, Philadelphia, W. B. Saunders Company, 1927, p. 417.

An important comment on this case is that at the time of the accident there was no coughing or sensation of choking.

Case 4. Foreign Body 21. M. P., age 22 months. Admitted to St. Louis Children's Hospital February 10, 1925, with difficulty in breathing, cyanosis and fever. The history was that while eating hickory



Fig. 3. Dental broach, Case 3.



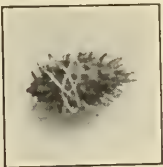
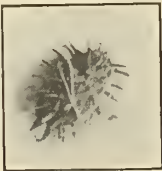

nut twenty four hours previously she had a severe attack of choking and that she had been wheezing since that time.






Chest examination revealed impaired breath sounds over entire chest, more marked on the right. X-ray examination showed pneumonic process in right upper lung. Bronchoscopy was done immediately. One large and two small pieces of hickory nut were removed from the right main bronchus. The bronchial mucous membrane was fiery red and bathed in mucopurulent secretions everywhere. Breathing at once improved and the child was returned to her room in good condition. The next morning tracheotomy was done for the relief of severe dyspnea and cyanosis. At this time she had high fever. She died twenty four hours later. Autopsy showed several small pieces of hickory nut kernel in the secondary bronchi of the right lower lobe far out in the parenchyma of the lung. There was also wide spread pneumonia. Because of the severe and rapidly fatal nature of the illness it was felt that the pneumonic process was similar in nature to arachidic bronchitis described by Dr. Jackson.

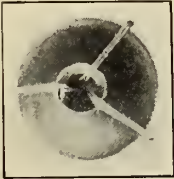

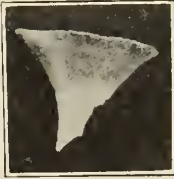

SUMMARY

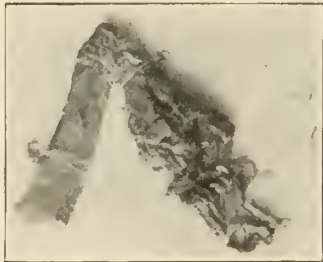


The importance of careful physical, X-ray, and bronchoscopic examination in all cases of unexplained cough, and especially cough with a suggestive history, is beautifully exemplified in Case 1. It is my feeling that instruments with distal lighting are vastly superior to those with proximal lighting.




We have been able to demonstrate to our satisfaction the wisdom of Jackson's teaching regarding the necessity for team work by specially trained assistants who are accustomed to working with the operator. Proper armamentarium also is imperative for the best success in the treatment of these cases.

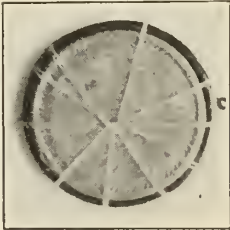



<i>Case number and illustration</i>	<i>Age</i>	<i>Foreign body</i>	<i>Location</i>	<i>Anesthetic</i>	<i>Tube</i>	<i>Problem</i>	<i>Forceps</i>	<i>Point of seizure</i>	<i>Result</i>	<i>Time</i>	<i>Route</i>	<i>Comment</i>
Fbdy. 24 	2 yrs.	Watermelon seed	Trachea, 30 hrs.	None	5 mm.	Slippery. Shifting	Jackson side grasping	Flatwise	Extraction. Recovery	15 min.	Oral	Tracheotomy 24 hours later on account of edema. Recovery.
Fbdy. 19 	3 yrs.	Watermelon seed	Trachea	None	5 mm.	Slippery. Shifting	Jackson side grasping		Removal. Recovery	14 min.	Oral	Slipped from forceps. Coughed in to end of bronchoscope and bronchoscope withdrawn. Tracheotomy 2nd day. Subcutaneous emphysema.
Fbdy. 13 	8 mos.	Cockle burr	Larynx	None	Laryngoscope	None	Matthew	End	Removal. Recovery	50 sec.	Oral	
Fbdy. 15 		Cockle burr	Larynx	None	Laryngoscope	None	Matthew	End	Removal. Recovery	5 min.	Oral	
Fbdy. 20 	5 yrs.	Locust bean	Trachea, 1 day	None	5 mm.	Shifting. Slippery	Jackson	Flatwise	Removal. Recovery	8 min.	Oral	


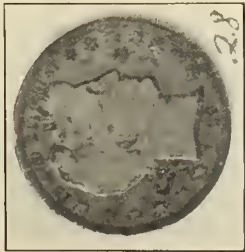


Case number and illustration	Age	Foreign body	Location	Anesthetic	Tube	Problem	Forceps	Point of seizure	Result	Time	Route	Comment
Fbdy. 17 	6 yrs.	Peanut	Right bronchus, 10 hrs.	None	7 mm.	Friable	Fenestrated		Removal, Recovery	12 min.	Oral	Reaction, necessitated tracheotomy 24 hrs. after removal.
Fbdy. 23 	18 mos.	Rubber stopper	Rt. lower lobe Bronchus, dorsal branch 4 hrs.	None	4 mm.	Secondary bronchus too small for bronchoscope	Small, Jackson side grasping	Upper end	Extraction, Recovery	10 min.	Tracheotomy	Tracheotomy had been done months before.
Fbdy. 22 	3 yrs.	Stove bolt	Left main bronchus, 2 weeks	None	5 mm.	None	Jackson side grasping	Threaded end	Extraction, Cure	2 min.	Oral	Postoperative edema of glottis necessitating tracheotomy. Unventful recovery.
Fbdy. 1 	3½ yrs.	Rivet	Right main bronchus, 11 days	None	5 mm.	None	Tucker	End	Extraction, Cure	2 min.	Oral	
Fbdy. 12 	12 yrs.	Tin whistle	Right main bronchus, 28 days	None	7 mm.	Granulation plus covering fbdy.	Side grasp	End	Extraction, Cure	6 min.	Oral	




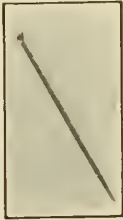
Case number and illustration	Age	Foreign body	Location	Anesthetic	Tube	Problem	Forceps	Point of seizure	Result	Time	Route	Comment
Fbdy. 37 	18 mos.	Nut from bed post	Esophagus below cricopharyngeus, 5 hrs.	None	7 mm.		Side curved	One with other over edge	Extraction. Cure	4 min.	Oral	
Specimen lost	4 yrs.	Peanut	Right middle bronchus, 7 days	None	5 mm.	Friable impacted fbdy. Swelling	Straight		Removal. Recovery	55 min.	Oral	Friable. Removed in small pieces. Great reaction. Pneumonia.
Fbdy. 34 	45 yrs.	Veal bone	Esophagus, 3 hrs.	None	10 mm.	Stuck tightly	Side grasp	Presenting edge	Extraction. Cure	15 min.	Oral	Removal followed by profuse bleeding from site of infection. Uneventful recovery.
Fbdy. 10 	8 mos.	Chicken bone	Esophagus, 2 days	None	7 mm.	None	No forceps used		Regurgitated	4 min.	Oral	Bone was dislodged by esophagoscope and patient strained, regurgitating it in mouth.
Fbdy. 31 	35 yrs.	Bone	Orifice right lower lobe bronchus, 18 mos.	None	7 mm.	Bronchus filled with pus and granulation above fbdy.	Side grasp		Extraction. Recovery	15 min.	Oral	See case report.

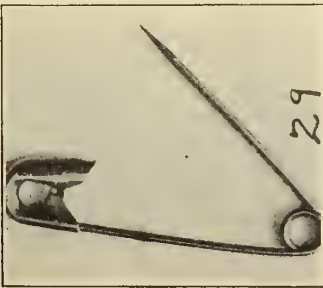

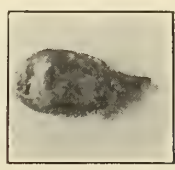

Case number and illustration	Age	Foreign body	Location	Anesthetic	Tube	Problem	Forceps	Point of seizure	Result	Time	Route	Comment
Fbdy. 26 	34 yrs.	Breast bone of chicken with large bolus of meat attached	Esophagus, aortic arch	None	9 mm.	Tucker		Bone near angle	Extraction. Cure	5 min.	Oral	
Fbdy. 33 	2 yrs. 6 mos.	Penny	Esophagus, 2 days, cricopharyngeus	None	7 mm.	Edema and folds of membrane	Jackson side grasping	Presenting edge	Extraction. Cure	3 hrs. 45 min.	Oral	
Fbdy. 30 	3 yrs.	Penny	Esophagus, 11 days, cricopharyngeus	None	9 mm.	None	Jackson side grasping	Presenting edge	Extraction. Cure	15 min.	Oral	On account of inflammatory reaction extremely difficult to find penny.



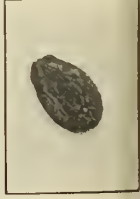
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Fbdy. 4 	28 yrs.	Button	Esophagus, 1 day, crico-pharyngeus	None	10 mm.		Matthew	Presenting edge	Extraction. Cure	3 min.	Oral	
Fbdy. 11 	3 yrs.	Button	Esophagus, 3 days, crico-pharyngeus	None	7 mm.	None	Jackson side grasping	Presenting edge	Extraction. Cure	3 min.	Oral	
Fbdy. 36 	7 yrs.	Button	Esophagus, 7 days, crico-pharyngeus	None	10 mm.	None	Jackson side grasping	Presenting edge	Extraction. Recovery	2 min., 15 sec.	Oral	




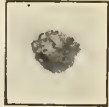
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Fbdy. 8 	3 yrs.	Aluminum bread ticket and toy plate	Esophagus, 2 days, crico-pharyngens	None	7 mm.	None	Jackson side grasping	Presenting edge	Extraction. Cure	2 min., 50 sec.	Oral	
Fbdy. 2 	2 yrs.	Penny	Esophagus, 5 hrs., level of arch of aorta	None	7 mm.	None	Jackson side grasping	Presenting edge	Extraction. Cure	2 min.	Oral	
Fbdy. 14 		Nickel	Esophagus at suprasternal notch	None	7 mm.	None	Jackson side grasping	Presenting edge	Extraction. Cure	2 min.	Oral	
Fbdy. 38 	2 yrs.	Nickel	Esophagus at crico-pharyngens	None	7 mm.	None	Jackson side grasping	Presenting edge	Extraction. Cure	4½ min.	Oral	

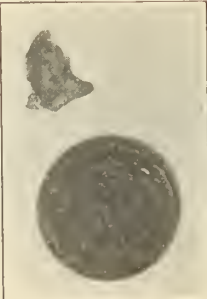



Case number and illustration	Age	Foreign body	Location	Anesthetic	Tube	Problem	Forceps	Point of seizure	Result	Time	Route	Comment
Fbdy. 35 	8 mos.	Dime	Esophagus, 6 hrs., cricopharyngeal fold	None	7 mm.	None	Straight	Proximal edge	Extraction. Cure	3 min., 30 sec.	Oral	
Fbdy. 28 	8 yrs.	Half dollar	Esophagus cricopharyngeus	None	7 mm.	None	Jackson side curved	Proximal edge	Extraction. Recovery	1 min.	Oral	
Fbdy. 21 	22 mos.	Hickory nut kernel	Rt. main bronchus, 10 hrs.	None	5 mm.	Multiple small fobdys.	Fenestrated		Extraction of part. Death	5 min.	Oral	Improvement. Later tracheotomy. Pneumonia. Death. Autopsy showed many fine pieces stuck in several small bronchioles.
Fbdy. 3 	26 yrs.	Dental instrument	Rt. main bronchus	Ether	7 mm.	Point had passed through wall of main bronchus 1/4 in.	Tucker pin forceps	Shaft near entrance to bronchial wall	Extraction. Recovery	8 min.	Oral	

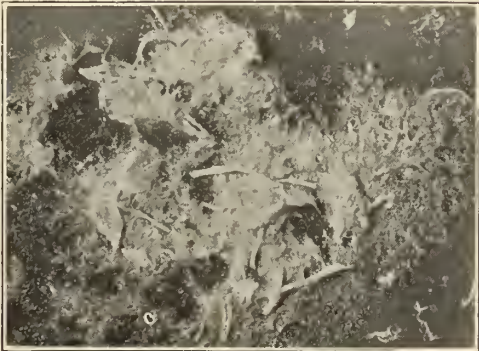
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Fbdy. 32 	3 yrs.	Nut kernel, almond	Rt. main bronchus, 4 days	None	5 mm.	Impacted friable	Fenestrated		Extraction. Recovery	12 min.	Oral	
Fbdy. 5 	3 yrs.	Safety pin	Esophagus, 1 day	None	7 mm.	Open pin sticking in wall, point upward	Tucker	Shaft pushed downward and drawn into scoops	Extraction. Recovery	7½ min.	Oral	
Fbdy. 6 	18 mos.	Safety pin	Esophagus, 7 hrs.	None	5 mm.	Open pin, point down	Tucker	Spring	Extraction. Recovery	2 min.	Oral	
Fbdy. 27 	13 yrs.	Pin	Transfixed through ventricular band, both sides	None	Laryngoscope	None	Tucker	Head	Extraction. Recovery	1 min.	Oral	

Case number and illustration	Age	Foreign body	Location	Anesthetic	Tube	Problem	Forceps	Point of seizure	Result	Time	Route	Comment
Fbdy. 29 	23 yrs.	Safety pin	Esophagus, 2 days	None	10 mm.	Open pin		Coil spring	Extraction. Cure	17 min.	Oral	
Fbdy. 25 	8 mos.	Grain corn (maize)	Trachea, 24 hrs.	None	4 mm.	Friable	Jackson side grasping	Presenting edge, upper end	Extraction. Recovery	2 min.	Oral	
Fbdy. 16 	6½ yrs.	Grain corn (maize)	Trachea, 10 days	None	7 mm.	None	Jackson side grasping	Edgewise near pointed end	Extraction. Recovery	3½ min.	Oral	Immediate tracheotomy when first seen on account of asphyxiation. Grain of corn coughed above tracheotomy wound. Tube inserted. Corn removed with laryngoscope but lost in mouth and swallowed. Child did not do well. Bronchoscope passed 2nd grain removed from rt. main bronchus. Pneumonia and death 20 hours later.
Fbdy. 18 	3 yrs.	Two grains corn (maize)	Rt. main bronchus and trachea, 14 days	None	5 mm.	Patient in extremis	Jackson side grasping	Edgewise over edge	Extraction. Death	Not recorded	Oral	

Case number and illustration	Age	Foreign body	Location	Anesthetic	Tube	Problem	Forceps	Point of seizure	Result	Time	Route	Comment
Fbdy. 9 	2 yrs.	Bean	Rt. main bronchus, at level of upper lobe bronchus	None	5 mm.	Impacted friable, no for- cup space	Jackson side grasping		Extraction. Recovery	40 min., 20 min.	Oral	Very tightly im- pacted and friable. Two efforts at re- moval necessary. First many small pieces removed. Second large por- tion removed in- tact. When broncho- scope was intro- duced trachea was found full of pus. Suction tube intro- duced to remove pus. Child stopped breathing. Imme- diate postmortem showed six penny nail with consid- erable accretions of rust, lodged in it. Nail with pus had blocked this bronchus off entirely causing asphyxiation. Right lung throughout filled with abscesses leading from large abscess in middle lobe. Rt. main bronchus filled with granulations. It was apparent that nail had rest- ed in bronchus for 9 mos.
Fbdy. 51 Specimen lost	3 yrs.	Shingle nail	Rt. main bronchus, 9 mo.	None	5 mm.	Patient in extremis	None used	None	Death	Not re- corded	Oral	
Fbdy. 43 	2 yrs.	Peanut	Rt. main bronchus, 21 day	None	5 mm.	Acute inflamma- tion, swell- ing pus, fri- able tight fit- ting nut	Sm. II Jackson		Extraction. Recovery	23 mm	Oral	Laryngeal edema. Tracheotomy. Em- physema aspiration of secretions from trachea and bron- chi.
Fbdy. 44 	4 yrs.	Watermelon seed	Trachea, 2 mos.	None	5 mm.	Movable slip- pery body	Tucker	Flatwise	Extraction. Recovery	2 min.	Oral	None.

Case number and illustration	Age	Foreign body	Location	Anesthetic	Tube	Problem	Forceps	Point of seizure	Result	Time	Route	Comment
Fbdy. 45 	6 yrs.	Identification aluminum tag for chicken legs	Infraglottic portion of larynx, 7 days	None	Laryngoscope	Tightly wedged thin metal body difficult to visualize with X-ray	Alligator	Flatwise	Extraction. Recovery	1 min. 30 sec.	Oral	None
Fbdy. 47 	18 mos.	Grain of corn	Rt. main bronchus, 2 days	None	4 mm.	Large, tight fitting, and friable	Small Jackson	Flatwise over end	Extraction. Recovery	17 min.	Oral	Esophagus examined as far as stomach. Bronchi explored to second division. No foreign body found. This case is reported because of the interesting fact that a stick of this length could be passed through the intestinal tract without apparent injury or delay.
Fbdy. 39 	12 yrs.	Stick from "all day sucker," 4½ inches long	Gastro-intestinal tract	None	None	None	None	None	Passed in stool			Large piece removed from upper lobe bronchus at first bronchoscopy. At second bronchoscopy, a few days later, with the aid of a single plane fluoroscope an unsuccessful attempt was made to remove the smaller pieces from dorsal branch of middle and lower lobe bronchi respectively. Child sent home to rest for three weeks. Returned 2 months later with report that one piece had been coughed up. The remaining fragment in lower lobe bronchus was shown by X-ray to be on a level with the dome of the diaphragm near the spine. With the aid of fluoroscope this was removed with small Jackson side grasping forceps.
Fbdy. 49 	13 mos.	Tin foil, three pieces	Upper left bronchus	None	5 mm.	Location of multiple body in secondary bronchi	Small Jackson	On end	Extraction of piece from upper lobe bronchus	20 min.	Oral	

Case number and illustration	Age	Foreign body	Location	Anesthetic	Tube	Problem	Forceps	Point of seizure	Result	Time	Route	Comment
Fbdy. 46 	4 yrs.	Penny Raw potato	Esophagus below cricopharyngeus, 5 days	None	Small Mosher	None	Tucker and Jackson	Flatwise	Extraction. Recovery	6 min.	Oral	None.
Fbdy. 53 		Celluloid	Trachea, 3 weeks	None	5 mm.	To pass fbdy. between vocal cords	Jackson side grasping	Prescining edge	Removal		Oral	Postoperative edema of the glottis necessitating tracheotomy wound which had healed elsewhere.
Fbdy. 48 	3 weeks	Open safety pin	Upper esophagus	None	Small Mosher	Infant. Point upward	Tucker	Shaft grasped, pushed down and point drawn into tube	Extraction. Recovery	5 min.	Oral	None.
Fbdy. 54 Specimen lost 	13 yrs.	Bone, squirrel rib	Esophagus	Preliminary morphia and hyoscine	7 mm.	Access of esophagus at level of cricopharyngeus. Edema of corresponding half of glottis. Dyspnea and extreme pain when esophagoscope was introduced. Lymphadenitis of submaxillary. Pain in opening mouth.	None	None	No fbdy. found		Oral	Esophagoscopy examination and direct examination revealed great swelling on left half of glottis involving lateral wall of pharynx and esophagus down to just below cricopharyngeal muscle. When esophagoscope was introduced into the region of the cricopharyngeus there occurred apparently the rupture of an abscess filling the esophagus with thick yellow pus. No attempt to locate the bone. The only break in the continuity with the surface apparently was where this abscess had ruptured.

Case number and illustration	Age	Foreign body	Location	Anesthetic	Tube	Problem	Forceps	Point of seizure	Result	Time	Route	Comment
Fbdy. 52 Specimen lost	21 yrs.	Cockle burr	Rt. lower bronchus, 3 weeks	None	9 mm.	Bronchus filled with granulations and pus. No foreign body visible. Patient extremely bad operative risk	Jackson side grasping	None	Failure to remove fbdy.	45 min.	Oral	Second bronchoscopy contraindicated by development of abscess and septic pneumonia. External drainage established by thoracostomy. Patient died two days later from sepsis.
Fbdy. 50 	53 yrs.	Bolus of food, chicken	Esophagus, lower third	None	Mosher	None	Tucker	Removal in small fragments	Extraction. Recovery	17 min.	Oral	Stricture from scar at site of radium implantation for carcinoma 2 years previous.

INJURIES TO THE EYE*

J. ELLIS JENNINGS, M.D.

ST. LOUIS, MO.

The eyeball is protected on three sides by the bony walls of the orbit. The only vulnerable point is the anterior segment which is exposed to injury from flying particles of metal, emery, cinders, wood and glass. There are three classes of injuries; (1) those in which a foreign body becomes embedded in the cornea, (2) those in which the eye is injured or ruptured by a blow from some heavy object, and (3) those in which a foreign body is driven through the cornea or sclera and lodges in the eyeball. The most frequent accident is a cinder getting under the upper lid causing considerable irritation to the eye. It may work out itself or the patient may remove it by grasping the eyelashes of the upper lid and pulling it down over the lashes of the lower lid which brushes it out. If a physician is consulted, it is the work of a moment to evert the lid and remove the offending particle. To evert the lid, have the patient look down, grasp the eyelashes with the fingers of the right hand, pull the lid down and then roll it up over a match which has been placed on the lid above the tarsal cartilage. If the foreign body is not found under the lid, place the patient on a chair facing a window and examine the cornea. To facilitate this examination you should have a large magnifying glass to condense the light on the cornea, and a corneal loup with a focus of three fourths inch to search for the foreign body. With the cornea brightly illuminated, examine every part of it carefully and have the patient move his eye in various directions. The foreign body may be white, brown or black, large enough to be easily seen by the naked eye or so small that it is invisible except when looking through the corneal loup. Sometimes irritation of the eye simulating a foreign body is due to a small pimple on the edge of the lid, to an inverted eyelash or to an abrasion of the cornea. The best way to reveal an abrasion of the cornea is to instill a drop of methyl blue (1 per cent.) when the abrasion will take a blue stain. I must caution you not to mistake a pigment spot of the iris for a foreign body on the cornea. This mistake is occasionally made resulting in considerable damage to the cornea. Before removing a foreign body from the cornea instil a drop of 4 per cent. cocain or 2 per cent. butyn and have

the patient keep his eyes closed for a few moments. If the foreign body is loosely attached it may be brushed off with a little cotton tightly wound around the tip of a probe. If it is too firmly seated to come away easily it must be removed with a metal spud or other sharp pointed instrument which has been sterilized. Try to insert the point of the spud under the foreign body and lift it out. Be careful not to do any more damage to the surrounding cornea than possible as this only increases the chances of subsequent infection. In most instances the foreign body comes out at once but leaves behind a brown stain which is very difficult to remove. This brown ring must be removed before healing will take place. Having removed every particle of the foreign body and any ring of brown stain, disinfect the wound with a drop of a 2 per cent. solution of protargol or a 20 per cent. solution of argyrol, and apply a bandage to the eye, holding it in place by means of strips of adhesive tape. It is most important to wear this protective bandage for at least twenty four hours to allow the wound to heal. One of the cardinal rules of surgery is to put the inflamed or injured part at rest. How can the wounded cornea rest with the upper lid rubbing over it every few seconds in the act of winking? The fine nerve endings are exposed over the raw surface so that the rubbing of the lid, the glare of the light and the impurities of the atmosphere, all tend to aggravate the condition, increase the pain and prevent healing. For the relief of pain some physicians order the frequent instillation of cocain drops. This practice should be abandoned because cocain destroys corneal epithelium. I remember a case in which the entire cornea was denuded of its epithelium from this cause; the patient was in great pain and as the pain increased he used the cocain drops more and more frequently. All that was necessary to give relief was to stop the cocain and apply a protective bandage. I cannot too strongly urge the vital necessity of applying a bandage after removing a foreign body from the cornea. Our railroads pay many thousands of dollars in damages annually because this simple rule is not followed. I remember a case in which the Supreme Court of North Dakota affirmed a judgment in favor of a railroad engineer for \$8,000 against a physician for negligence in the treatment of an eye. It was proved he did not apply a bandage after removing the foreign body.

Blows on the eye. Often an eye is injured

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by being struck by some large object causing hemorrhage into the eye or a rupture of the globe. In a case seen recently a piece of iron struck the right eye. The tension was normal proving that the eyeball had not been ruptured. The anterior chamber was filled with blood so that no view of the fundus could be obtained. In a few days when the blood had become absorbed it was found that the iris had been torn loose at its ciliary attachment, forming a false pupil on the temporal side. There is no sight in the eye probably due to hemorrhage into the vitreous. Hemorrhage in the anterior chamber is readily absorbed but a vitreous hemorrhage usually remains, so that the prognosis for improved vision is bad. Nine years ago I saw a girl ten years old who was struck on the left eye by a lump of coal. The eyeball was ruptured in the sclera close to the cornea on the nasal side and the iris was prolapsed into the wound. The wound was thoroughly cleansed with 1/2000 solution of bichloride and the conjunctiva drawn over the rupture and secured by two stitches. Vision was 6/20. Six weeks later sympathetic inflammation started in the other eye and despite the prompt removal of the injured eye she became totally blind. There is no doubt that ruptures and penetrating injuries to the eyes of children are much more dangerous than in adults.

Foreign bodies in the eyeball. Frequently in breaking a rail with hammer and chisel or some other operation in which these tools are used, a chip of steel strikes the eye with such force that it is driven into the eyeball. After the sudden sharp pain at the moment of entrance, there is no sensation in the eye which would indicate to the patient the presence of a foreign body. In fact many patients are quite positive there is nothing in the eye. The chip of steel may vary greatly in size from a minute speck which leaves hardly a trace of its passage to one of large size which tears its way through the tissues destroying the eye.

Prophylaxis. Many eyes would escape injury if workmen would wear protective spectacles while sharpening tools at the emery wheel or when using a hammer and chisel. Protective goggles which will not splinter when struck by a piece of steel are now found in most machine shops. Strange to say many workmen prefer to run the risk of injury rather than wear them. If you examine the spectacles of a workman who wears them constantly to correct some optical defect you will frequently find the lenses peppered with specks of emery

which otherwise would have struck the cornea.

Treatment of foreign bodies in the eye. When the history of the case would lead you to suspect the presence of a foreign body in the eye, the first thing to do is to have an X-ray picture made. Sometimes a minute particle of steel leaves no trace of its passage, therefore to be on the safe side always taken an X-ray picture when a hammer and chisel were being used at the time of the accident. The only exception to this rule is when a large piece of steel has torn its way into the eye leaving a large wound and a soft eyeball. In these cases the giant magnet may be used at once and the foreign body drawn out through the wound of entrance. Often the track of a foreign body may be followed by noting a cut in the cornea and back of it a tear of the iris or a wound of the lens causing a cataract. If the foreign body enters through the sclera it can be seen in the vitreous by means of the ophthalmoscope. I remember an interesting case in which a good sized piece of steel could be seen in the vitreous close to the optic nerve. An X-ray localization showed it was sticking half in and half out of the eye at the back. After thinking it over for several days, Dr. Woolsey, Chief Surgeon of the Frisco Railway, and I went after it. The internal rectus muscle was cut and held by a suture. Grasping its stump near the cornea with forceps, the eyeball was rotated as far as possible to the nasal side and held there while a passage was burrowed backwards, hugging the globe. At last after considerable mopping away of blood, a black object was seen, grasped with forceps and the foreign body was drawn out. The internal rectus was then stitched back in place. When the exact position of the foreign body is known we must decide how to get it out with least damage to the eye. Shall we apply the tip of the magnet to the wound of entrance or would it be better to make a new opening nearer to the position of the foreign body. In any case the opening through which it is to come out must be quite large so that there will be nothing to prevent its easy exit when the magnet is turned on. I have seen considerable damage done to the delicate structures of the eye by repeated attempts to remove a foreign body through too small an opening. When ready to use the magnet, the patient is placed on the operating table and the eye cocainized. The point of the magnet and all instruments should be sterilized. See that the magnet is in good working order

by testing its pulling power with a bunch of keys. Be careful to screw the point of the magnet in tight as I have seen it jump out on several occasions. Be sure to enlarge the wound with knife or scissors so that the foreign body can come out easily. Also place a towel under the tip of the magnet so that the foreign body cannot be lost. Pick up the patient's head in your hands, hold back the lids and apply the wound against the tip of the magnet in direct line with the foreign body. Then have the current turned on. If successful, the next instant the foreign body is seen attached to the point of the magnet. In some cases it is necessary to turn the current on and off several times before the foreign body makes its appearance. I think the secret of success is to have a large, free opening and to hold the eye so that this opening is in direct line with the foreign body. If all attempts at removal are unsuccessful or if the foreign body is non-magnetic, such as copper or lead, should we advise enucleation in order to prevent a possible sympathetic ophthalmia or may we try to save the eye? Sympathetic inflammation is a dreadful disease usually leading to blindness, but the difficulty is that no one can tell whether it will start up or not. Last year I removed a large piece of steel which had been in the eye for 28 years without causing symptoms. Nine years ago a farmer boy, aged 21 years, lit a dynamite cap to see what would happen. The right eye was so badly injured that it had to be enucleated at once. In the left eye there was a wound of the sclera close to the cornea with prolapse of the iris. The eye made a rapid recovery and several weeks later I could see a nest of five or six small foreign bodies in the vitreous moving about in a filmy tissue. The vision was almost normal. Tiring of farm life he got a job as a bookkeeper and for nine years has used the eye constantly with no ill effect. After an experience of many years I hesitate to express any hard and fast rules as to the management of these cases. But in a general way I would say that if the foreign body was small and causing little irritation and the sight was good, I would watch the eye carefully with the hope that the foreign body would become encysted when it would not be liable to cause trouble. But if the sight was badly damaged and a low grade inflammation persisted, I would advise enucleation. It must be remembered that in many cases even if the foreign body is removed promptly the eyeball gradually becomes soft, shrunken and sightless. It is

therefore better to remove a badly damaged eye at once in order to save time and allow the patient to go back to work.

807 Carleton Building.

DISCUSSION

DR. GUY L. NOYES, Columbia: I think Dr. Jennings has given us a very comprehensive survey of the conditions under discussion, and has emphasized the importance of placing injured structures at rest. Second only in effectiveness to the protective and pressure pad dressing is the importance of functional rest in the anterior segment of the eyeball, obtainable only by the judicious and discriminating use of atropin. This agent so used saves us an immense amount of grief in handling both minor and major eye injuries. In searching for the source of local irritation in an eye suspected of holding a foreign body, one should always keep in mind the possibility of lodgment of an eyelash, not free in the conjunctival sac but in the canaliculus, usually the lower one. When this takes place the irritation occasioned by the protruding hair is considerable and persistent. On careful scrutiny one finds enough of the cilium protruding through the punctum to make removal very easy. The relief of symptoms, following the removal of the lash, comes about very promptly.

A group of eye injuries seen very frequently have to do with combined injury to the eyeball and the skin of the face and lids. This type of injury often occurs by reason of flying fragments of glass, resulting from automobile accidents and the like. The wounds on the face and lids are so ugly and have such possibilities for deforming the countenance that they are apt to absorb the surgeon's skill and attention so completely that a possible small injury to the eye, even a perforating wound of the eyeball, may be overlooked altogether and even hidden by the facial dressings until late reaction causes the patient to demand relief on account of pain in his eye.

To uncover such an eye only to find beginning iritis or traumatic cataract is bad enough, but added to this there is a strong possibility of an infected wound of the eyeball that might have been made clean by proper attention during the initial treatment.

In patients who have combined injuries to the eyeball and the lids, the oculist must consider promptly the possible added danger of tetanus and the desirability of using antitetanic serum.

In the treatment of injured eyes when the anterior segment is involved and there is apprehension regarding the development of iritis or of infection menacing the wounded cornea, we must recall the benefits that may come from milk injections, supplemented of course by other treatment.

DR. T. O. KLINGNER, Springfield: I just want to add a little to what Dr. Noyes has said in regard to the removal of foreign bodies from the eye. The removal of a foreign body is a very delicate operation and should be undertaken only when the eye is thoroughly under control with anesthetic, as Dr. Noyes has pointed out.

I have seen far greater injuries resulting from the attempt to remove a foreign body from the eye than was caused by the foreign body itself. I have in mind now the case of a railroad man who came to the office just the day before I left, with a foreign body in the eye and one of his fellow-workmen had attempted to remove it with a match. The foreign body was a small affair, but the whole

lower part of the cornea was lacerated by the attempt to remove it.

We should warn the superintendents and fellow-workmen not to try to remove these foreign bodies with matches or instruments, because in the first place their hands are not sterile, and in the second place they are not trained for such delicate operations.

I refer to prophylaxis for emphasis; prophylaxis by wearing goggles is important. Before the Frisco Railroad inaugurated and enforced the rule that all employees working in hazardous places must wear goggles we were called upon to use the magnet from one to five times a month for the removal of foreign bodies from the eye. I was out at the shops a few weeks ago and the safety man there showed me a collection of thirty-six pairs of glasses broken all to pieces from being struck by foreign bodies, and not an eye was injured in those thirty-six cases. If it had not been for the protection of the goggles a majority of those eyes would have been injured. I don't believe we have been called on to use the magnet but once since January, 1926.

RUBBER BAG INFLATED IN THE BLADDER AS AN AID TO BLADDER SURGERY

PRELIMINARY REPORT

C. S. CAPELL, M.D.

KANSAS CITY, MO.

The use of an inflated rubber bag in the bladder may be of value in two types of cases, viz: (1) In operations on vesicovaginal fistula; (2) In certain cases of excision of a portion of the bladder wall or subtotal cystectomy for tumor, ulcer or diverticulum.

Vesicovaginal fistula. This condition is not very serious as far as life is concerned but the irritating and excoriating effect of the urine constantly dribbling over the parts causes great discomfort. The serious aspect, however, is the disagreeable odor that is everlasting present, making these patients virtually social outcasts.

Operations for vesicovaginal fistula have been performed since the time of Hippocrates,¹ a voluminous literature on the subject having developed during all these years. These fistulae occur following extensive operations upon the uterus and from injuries due to childbirth in which ischemia is produced by a fold of the bladder being caught between the pubic bones and the on-coming head. Notwithstanding the increasing knowledge of prevention fistulae still occur. During all these years improvements in the operation for the repair of these conditions have been constantly brought forward. This in itself is evidence that the operation is not satisfactory and is attended with difficulties. In reading case histories it is not unusual to observe that many of

these cases had undergone more than one operation, one case having had six operations before success was attained.

In the textbook pictures² the bladder is usually portrayed as distended and the operation as being performed without difficulty, but this is not the case. The bladder with a fistula, or one that has been opened for an operation, is not distended; it is collapsed in the form of a V with the apex at the urethra; it lies deep in the pelvis and is difficult of access. It would be of advantage and would relieve some of the difficulties of the operation if the bladder were maintained in a state of distension. My idea was to insert a small, thin bag or balloon into the bladder and inflate it with water which would I believed furnish the desired constant dilation. In the accompanying case histories are recorded my experiences with the inflated bag and the results good and bad, but mostly good.

REPORT OF CASES

The first case upon which we used the rubber bag was a married woman aged 37, wt. 130 lbs., upon whom a hysterectomy had been done and later another operation for removal of the stump of the cervix. Following the latter operation a vesicovaginal fistula developed and an unsuccessful attempt at repair had been made. Upon examination the case seemed to be rather simple, with a small fistulous opening, so it was decided to do a modification of a very clever operation devised by Dr. R. F. Amyx³ and described by Dr. Chas. H. Mayo.⁴ I insert here a verbatim description of the operation as written by Dr. Mayo, then will note the variations in the technic which were made in this case.

The Mayo technic: An incision is made through the vaginal mucosa extending completely around the fistulous opening about a quarter of an inch or less from its margins. The vaginal mucosa is dissected toward the opening, care being taken not to break through at the margin. This makes a little cup or funnel-shaped opening projecting into the vagina. The circular dissection is carried deeper around the fistula, not approaching nearer than one-eighth of an inch to the margin, its depth penetrating to the mucosa of the bladder but not through it. This leaves a little bell or funnel-shaped opening lined with mucous membrane which is connected with mucosa of the bladder and projects into the vagina. A ligature carrier is passed through the urethra into the bladder and through the fistula into the vagina. A suture is passed through both walls of the funnelled mucosa on each side of the ligature carrier. The two ends of the silk suture are now threaded into the ligature carrier which is withdrawn from the bladder and urethra. The ends of the suture projecting from the urethra are drawn upon, and with a little aid the fistulous tract starts inverting. As soon as the mucosa disappears a circular suture of fine chromic catgut is applied, a little more traction is used on the ends of the long suture and a second purse-string of catgut is applied. The vaginal side is now closed either by a circular suture of the chromic catgut or by interrupted sutures, as seems best. This inversion turns the mucous surface into the bladder

and leaves a healing surface within the tube. One of the long ends of the suture projecting from the urethra is rethreaded and by a needle is sutured to the skin of the labia. The two ends are now tied at this point, making slight traction. A self-retaining catheter (Pezzer type) is inserted into the bladder and the patient is instructed to rest on her side or even on her face. This keeps the fistulous area free from urinary pressure. After four days it is necessary carefully to watch the catheter that sediment or phosphatic deposit does not obstruct its lumen. In some cases irrigation is necessary. However, the long suture attached to the inner side of the surface of the fistula and passing through the urethra acts as a safety valve of leakage should the catheter become temporarily plugged. After a week the repair is usually solid, but it is better to keep the patient on her side or face for a few days longer that no undue strain may be placed on the fistulous area, and during this time it is best to keep a catheter in or if it is removed to have regular periods for passing it. The suture from within the bladder either cuts itself out with the slight traction before it is time to remove the catheter or it may be drawn out without difficulty by cutting one side where it is attached to the skin.

I have modified the above technic in certain particulars:

First, the bladder was cystoscoped and a ureter catheter passed through the fistula into the vagina. The cystoscope was withdrawn leaving the ureter catheter extending through urethra, the bladder, the fistula and out through the vagina. Then a rubber toy balloon was fastened over the beak of the cystoscope. The end of the balloon was fastened to the urethral end of the ureter catheter and well lubricated with glycerine; by traction on the vaginal end of the catheter and by pushing on the cystoscope the balloon was inserted well into the bladder. Then the distension was started. It was soon noticed that the water was extending back along the urethra between the shaft of the cystoscope and the bag, making distension on the outside as well as on the inside, like a saddlebag. The cystoscope with the rubber bag was withdrawn. With a silk ligature the bag was wrapped about on the shaft of the cystoscope for three inches, making a stem. The bag and cystoscope were inserted as before and the bag distended with eight ounces of water. This time there was no protrusion through the urethra. The operation was finished as described above. The ureter catheter acted as a guide. The distended bladder with a little pressure above and traction on the ureter catheter below made the fistulous tract more accessible and acted as a counter-point⁵ of resistance upon which the dissection was done.

Quoting from the description: "The funnel-shaped opening lined with mucous membrane which is connected with mucosa of the bladder and projects into the vagina" was fastened to the vaginal end of the ureter catheter instead of the ligature carrier, as above described. The cystoscope, bag, ureter catheter with the attached catgut suture were withdrawn. Quoting further, "the ends of the suture projecting through the urethra are drawn upon and with a little aid the fistulous tract starts inverting. As soon as the mucosa disappears a circular suture of fine chromic catgut is applied, a little more traction is used on the ends of the long suture and a second purse-string suture of catgut is applied. The vaginal side is now closed. This inversion turns the mucous surface into the bladder and leaves a healing surface within the tube."

The long end of the traction suture was fastened to the thigh. The postoperative care was instituted according to the description.

In the next case the fistula was larger. It seemed impossible to make the funnel-shaped opening so a more extensive operation was necessary. The usual flap splitting operation,² the dissection and removal of the fistulous tract with mobilization of the bladder and closing of the opening, was done. Here the ureter catheter through the fistula and the rubber bag in the bladder were a distinct advantage, as they were in the former case. They made the fistula accessible and furnished a back ground upon which a rather extensive dissection was done. The operation was successful.

The third case was a woman with a vesicovaginal fistula following hysterectomy for fibroids. The drainage was discontinued after several months, then severe bladder distress, pain, burning and frequency began. Cystoscopic examination revealed a stone in the bladder. The stone was crushed and removed with a cystoscopic rongeur. Immediately there was leakage of urine through the vagina. The fistula had been blocked by the stone and was reopened by its removal.

Operation for the fistula was very similar to the preceding case but difficulties were encountered. The patient was a very fat, maiden lady of forty years, and had a small, rigid and deep vagina. Notwithstanding the presence of the ureter catheter in the fistulous tract and the distended bag in the bladder the fistula was almost inaccessible. The operation was performed under difficulties. The dissection not being thoroughly done the result was unsatisfactory. If there is another opportunity I will enlarge the vaginal outlet with a bilateral episiotomy or an incision in the vaginal wall and perineum, as described by Schuchardt.⁴

There are some cases of vesicovaginal fistulae so extensive and so complicated that they are not amenable to any kind of procedure. In such cases we must devise some operation to divert the urine into the bowel.⁶

Excision of small portion of bladder wall, subtotal cystectomy in women. The other field in which the distended rubber bag in the bladder may be of service is in operation for tumor, ulcer or diverticulum. The rubber bag is fastened over the beak of a cystoscope, as described, inserted, distended and the bladder approached suprapubically. When the bladder is opened it will not become deflated and sink deep in the pelvis but will remain up in the wound thus making manipulation easy. The degree of distension is under complete control through the irrigating cystoscope and the cystoscopic light will be of value for transillumination.

REPORT OF CASE.

Mrs. M., aged 36, wt. 190 lbs. This patient was troubled for many years. Bladder irrigations were used for weeks at a time. The urethra had been fulgurated for caruncle and the bladder had been fulgurated, probably for ulcer. Cystoscopic examination revealed an ulcer⁷ in the vertex of the bladder. Other procedures having failed I decided to excise the ulcer.

The rubber bag and cystoscope were inserted as

described. The bladder usually held only three or four ounces. It was distended under anesthesia to eight ounces, exposed suprapubically, the peritoneum stripped away, the bladder opened and the ulcer excised. Although this woman was fat the operation was done without difficulty. On account of the infection present a drainage tube was inserted, the bladder closed and drained for four weeks. The discharge was greatly improved.

CONCLUSION

This is merely a preliminary report. I have not had enough cases to prove the worth of the procedure but I am convinced that it is a valuable measure.

1135 Rialto Bldg.

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FUNDUS DISEASES OF THE EYE

FROM THE STANDPOINT OF THE
OTOLARYNGOLOGIST

W. D. BLACK, M.D.

ST. LOUIS

During the past decade the relation of fundus disease to diseases of the ear, nose, throat and teeth, has been prominently discussed by the profession. Thousands of cases have gone unrecognized or incorrectly diagnosed and as a result there has been loss of vision in many cases.

Suppurative disease of the middle ear when followed by intracranial complications, with or without mastoiditis, gives rise to changes in the retina or nerve head in about twenty per cent. of cases.

Chronic infective disease of the tonsils is almost as frequent a cause of fundus disease as disease of the sinuses, and when to this group are added abscessed teeth, the ratio will be about equal.

Unfortunately the fundus cases due to infections of nearby organs, when taken as a whole, are in the great minority; and I say unfortunately because when such cases are properly diagnosed and treated the end results as to restoration of vision greatly exceed the results from other causes and are brought about in a much shorter time.

As to the etiology of fundus disease one must remember that there are innumerable causes

and that some cases will require not only the ophthalmologist but also the laryngologist, internist and neurologist to ascertain the etiologic factor.

Just how the infection of the nerve or retina takes place is still a moot question. One can easily understand how the nerve can become involved in some cases, because of the intimate relation of the optic foramen and nerve to the sphenoid sinus and the posterior ethmoid cells.

In those cases due to disease of the tonsils or teeth, and occasionally from the sinuses, we are still in the dark as to the kind of infection and the route, whether through venous or lymph channels or whether from bacteria or toxins.

Leon White, of Boston, has written many papers on the subject and believes that the infection occurs at a time when there is no evidence of sinus involvement; that the middle turbinate becomes enlarged and presses upon the ethmoid area causing a blocking of the natural openings, and this in turn produces a negative pressure in the cells, which then become inflamed and infected. The same holds good in hyperplastic sphenoid cases when the openings become obliterated.

I am still a little doubtful of the correctness of White's views but I am in accord with his statement that in retrobulbar or optic neuritis due to sinus infection, with a normal optic foramen of five and one half or six mm., the prognosis for recovery of good vision is very fair, providing that proper treatment is instituted early. In his early articles White said that when the optic foramen measures less than four mm. the sinuses should be opened. In his last communication he reported opening sinuses in a large number of cases in which the optic foramen measured 5 to 5½ mm.

In the tonsil, teeth, antrum and frontal cases I can conceive of no way for the nerve or fundus to become involved except through the venous or lymph channels, but just how this occurs I am not able to state.

Before the ophthalmologist refers the case to the laryngologist I believe it is an excellent plan to have an internist or neurologist go over the case, to rule out the more common causes, such as syphilis, multiple sclerosis, brain tumor, kidney disease, tobacco, alcohol, diabetes, and infections from scarlet fever.

Even if there is evidence of nasal disease it is not unusual to have cases referred by the ophthalmologist for a nose and throat examination and upon inquiry find that there has been no examination as to blood pressure, Wassermann, blood count, urine, or teeth. If these tests have not been made it is our first duty to rule out such conditions.

It is not necessary to go into the details of

an examination of the nose and throat, but frequently it is found even after the most painstaking and repeated examination, that the sinuses are negative both from a clinical and an X-ray standpoint. If the X-ray shows a cloudy frontal, antrum or ethmoid (the sphenoids are practically always negative), even though the rhinological examination is negative, if the patient has rapid loss of vision, an optic foramen under five mm., and if the tonsils and teeth are healthy, then by all means open the posterior group of sinuses.

If the tonsils are infected and teeth and sinuses are negative, enucleate the tonsils and wait a few days, unless the loss of vision is rapid and then the sinuses should be opened at the same time.

In the slow progressive cases the treatment is practically the same as in the acute cases except that after removing infected teeth or tonsils one can usually wait a reasonable time, say a month; if there is no improvement the sinuses should be opened.

If the middle turbinate bone is hypertrophied and healthy looking it is much better to preserve most of it. I have been performing an operation on the middle turbinate which has given a great deal of satisfaction. The technic is as follows:

An incision is made through the mucous membrane toward the septum; then take a Kyle saw and saw in an anteroposterior direction; remove the sawed or outer half with the snare. Next remove the ethmoids, then break down completely the anterior sphenoid wall and wash out the antrum to see if it is involved.

Even though there is present a suspicious sella or a bad kidney, or a lesion of any kind and you are in doubt as to whether it is causing the eye disease, there is no definite reason for not removing a diseased tonsil, infected teeth, or to open a sinus as these are all minor operations and if done with proper skill can do no harm and might do a great deal of good.

I do not advocate surgery as a rule for cases of suspected sinus disease, but where the sight is threatened I do not think we should allow the patient to go blind without making every effort even though not successful in the majority of cases.

In a number of my cases it was not unusual to find plenty of evidence of pathology in the nose and this was sometimes confirmed by the X-ray.

Again, I have had cases where the evidence of nasal disease was totally lacking clinically but the X-ray would show a cloudy sinus or sinuses. Although the X-ray is often of no value as an aid to diagnosis, it gives valuable information of the contour and size of the ac-

cessory sinuses; and no one should operate upon the ethmoids, the frontals or sphenoids without this information.

The hyperplastic cases that are so frequently mentioned in the literature on sinus disease are, in my experience, not commonly observed and I doubt whether these cases often cause fundus disease, except possibly by obliterating or narrowing the posterior ethmoid cells or optic foramen.

The slow progressive cases of retrobulbar or optic neuritis, even those with a negative Wassermann, should have a short course of potassium iodid and mercury, provided there are no contraindications. I have seen a number of such cases recover without surgical interference and while possibly they were not luetic the rapidity with which they progressed would make one suspicious.

In summing up I would like to remind the practitioner:

First. That fundus cases should be gone over carefully and all necessary tests made before sending them to the ophthalmologist.

Second. That the great majority are not due to any disease of the sinuses, tonsils or teeth.

Third. That when the ophthalmologist is in doubt as to the condition of the nasal accessory sinuses or tonsils he should not temporize before sending them to the otolaryngologist, because early operation gives the best results for vision.

Fourth. That the rhinologist should open the posterior group of sinuses, even though there is no evidence of pathology in the nose, when visual loss is progressive and no other cause found.

219 Metropolitan Building.

UNITED STATES NAVY DAY

LIEUTENANT F. K. SOUKUP

MEDICAL CORPS, UNITED STATES NAVY

In the industrial era of the present day ideas of mass production and efficiency absorb all our energies. Every one strives to utilize every moment, and too often regrets that there are only twenty-four hours in the day. In spite of radio, newspapers, automobile and telephone, our horizon has been shrinking. Surrounded on all sides by our fellow-citizens, we talk learnedly of our L.O.A.'s and R.O.P.'s, of our cholecystectomies and cholecystotomies, of our mitral insufficiencies and tachycardias; while our precursors surrounded by kaleidoscopic neighbors, in addition to their professional interests, gave much thought and personal service to the protection of the community.

Echoes of the outside world may reach us, but they have too much the vagueness and indefiniteness of mythology. Too many alarmists have sounded the tocsin needlessly. And since thinking is hard work we take the path of least resistance and drift along with the masses. Thus in our most active period of life we limit our thought to the compass of a small circle. But in the lives of some of us there comes a day when we retire from active work and venture forth outside of that circle—and lo, we begin to think!

Our travels bring us before the Pyramids of Egypt—how and why they were built and what became of the civilization which produced them? The art worked into the golden coffin of Tutankamen which we view in the museum in Cairo eloquently attests the high degree of that civilization. We stand on the site of the capital of that civilization—the site of Memphis—a wooded area deserted but for the group of ignorant natives who surround us and sell us crude figures shaped of Nile mud. We think of home and cannot escape noting the contrast between the two countries. What will remain of our own civilization four thousand years hence? What of our capital? Our reverie is suddenly rudely broken by a vicious fight which breaks out over the possession of a trinket. There are bloody scalp wounds and our guide insists on our getting into the cars and driving away. But before we do so an old man comes running from a neighboring village and, stretching forth his hand, apparently orders peace. We pity him in his age for the scene is unquestionably a dangerous one even for the most physically powerful. He might just as well stretch forth his hand to calm the raging sea. Our surprise holds us speechless—for in spite of passion and anger the fight ceases, and a bedlam of chatter takes its place—the feeble old man raises his hand and quiet is restored. With a gesture of authority he sends each of the chief participants in an opposite direction. We turn to our native guide for explanation.

"Omar, who is that old man?"

"Oh, he is the Sheik."

"But, how is it that those people respect and obey him so submissively; you yourself have told us they were strangers come from a distance and bad men who had been in prison?"

"No one dares disobey the Sheik. If he telephones, in twenty minutes the soldiers would be here, and one word from the Sheik would put them in prison. They know it."

We begin to think—so our safety here depends on soldiers!

In our dimmed memories we recall something about piracies along these coasts and also that as the result of someone's exclamation "Millions for defense, but not one cent for tribute" ships of the United States Navy established law and order along these coasts. However, that was long, long ago. Our naval vessels no longer ply the waters hereabouts.

The next morning having nothing to do, after our return by rail to Alexandria the previous evening, we try an early promenade in Mohammed Ali Square. The early morning is cool and we decide to walk along the bay to the lighthouse. Its sight in the distance brings again to mind the ancient civilization. We recall that one of the seven wonders of the ancient world stood on the island of Pharos in the Bay of Alexandria, that famous lighthouse built by King



Fig. 1. The U. S. S. Mississippi. A guarantee of the freedom of the seas.

Ptolemy Philadelphus twenty-three centuries ago. As we reach the present lighthouse a holiday spectacle meets our eyes. The harbor is full of great ships, the great transatlantic liners delayed for four days by one of the severest storms have not ventured out of the harbor. All the ships are "dressed," that is, decorated with all their varicolored signal flags arranged on lines stretching from the masts to bow and stern.

From the mast of each ship waves the green Egyptian flag with its graceful crescent. 'Tis a great national holiday, the first of Ramadam, the Mohammedan month of fasting. Regardless of nationality or creed, every ship in that great harbor joins the celebration. Scafaring men have no narrow prejudices. They see the human side in all races and civilizations. Our eye is suddenly caught by a light gray, trim man-of-war which has just tied to the buoy after having struggled with waves, wind and storm out in the deserted angry seas. The graceful lines and immaculate appearance certainly are a credit to any country. The respect which the pleasing appearance and the smooth, efficient performance commands,

raises in our esteem the foreign nation represented. We wonder how we could have been so blind in the past to the power and accomplishments of foreigners. Would that our Navy were somewhat like that! Though we are neither Mohammedans nor Egyptians we are surprisingly pleased by the courtesy of the visiting foreigner when he "dresses" his ship for the holiday and flies the Crescent on the Green Field from the mast. Even though not meant for us, there is something touching about the compliment he pays the country we are visiting. Changing our position so as to get a view of the stern the most unexpected sight meets our eyes. Impossible! Certainly it can be nothing but a vivid dream. There, majestically floating in the early morning breeze appear to be the Stars and Stripes. No, it is not a mirage. The Stars and



Fig. 2. The U. S. S. Texas. Commissioned in 1914 and reconditioned in 1926. Showing the new tripod masts necessary to relieve weight which must be used elsewhere.

Stripes are actually there! An indescribable thrill seizes us, we feel an emotion which even the pen of Flaminio would fail to describe. Our hearts swell with pride. We do not understand how in this part of the world where one least expects to see a United States naval vessel, one should appear from nowhere, as though brought in to being by some uncanny power. Man-of-war! What a misnomer! Its presence is a powerful psychological check on minds inclined toward hostility. A concrete argument for peace. The officers and men meet officially the local authorities and the result is the cementing of bonds of friendship. Mutual prejudices crumble giving place to better mutual understanding.

We muse of the cinema scenes in which American naval vessels appeared at critical moments and saved the situation. Of course that was arranged by the cinema director. But how strange that no matter in what part of the world conditions are unsettled we find American naval vessels just at the critical moment. How much blood-

shed has been prevented by the sudden appearance of naval vessels!

Our own lives, our own country, would not be what they are today had not a fleet less than 70 years ago psychologically exerted its influence.

It was during the Civil War, when England with her textile industries disorganized by the southern blockade which kept American cotton from reaching her markets, seriously contemplated interference in favor of the South. At the critical moment the Russian fleet appeared off the Atlantic coast of United States, and England thought again, reaching a diametrically opposite conclusion. It has always been a source of fertile speculation just how it came about that the Russian fleet did appear just at the critical moment. It is said that Russia had been appealed to and agreed if the United States would pay for the mobilization of its fleet, that fleet would put in an appearance. The promise to pay was given in the emergency, but Congress had not approved. When everything blew over Russia presented her bill—five million dollars. How readily we promise when near despair. It now appeared that no money was available to pay and Congress could not appropriate the money without offending England, to all appearances at all times during the struggle a friendly nation. An unknown bright young chap in the state department (blessed be his memory!) did what Congress could not do. Inasmuch as we were buying Alaska from Russia, he argued, we might just as well make Russia understand that we would not consider the purchase at the exorbitant price of \$2,200,000, but if Russia would come to reasonable terms and accept \$7,200,000, the sale was made. Well, Russia was anxious to get rid of Alaska and accepted. Rumor has it that five million went to her Navy for the recent mobilization. Any one can readily understand that the United States could not be held responsible for the manner in which Russia spent her money. How much bloodshed that mobilization prevented, heaven alone knows.

Lest we all busy ourselves in our daily routine and give no heed or thought to problems which may menace our very existence we have our Fourth of July, our Decoration Day, our Armistice Day, our Naval Day to recall lessons of history bought and paid for in blood. We cannot cast these lessons aside and refuse to learn. If we are to prevent the repetition of the same errors in the future, we must know those errors, we must avail ourselves of the lessons taught by history. We must learn to

think beyond our professional sphere. The masses will blindly drift from day to day and expect the world to go on as an automaton. The sun will rise and set but human events will not automatically remain within peaceful channels. The strong will always oppress the weak, the ignorant, through their ignorance and because of it, will always bring on disaster; the half-barbarous will plunder the civilized if the latter lull themselves to lethargy by fanciful ideas of "peace."

The medical man coming into personal contact with the people especially needs to know history in order that he may meet his higher obligations and temper judiciously the rashness of those who do not think.

Navy Day brings to mind the opportunity that medical men have of meeting their higher obligations. Theirs is the privilege of becoming members of the Naval Reserve. The Navy naturally desires a well organized Reserve. It is this peace time foresight and planning which accounts for our Navy being always at the right place at the critical moment and repeatedly by its presence averting war. The same psychological reason responsible for the usual serenity surrounding a policeman is responsible for the effect that a naval vessel produces. We all have heard the complaint that a policeman never was present when trouble started, the complaint implying a criticism of the policeman; of course had he been present he would have received no credit simply because the trouble would not have started, his presence acting as a psychological check. So it is with a powerful Navy.

The Naval Reserve needs medical men. The Navy not only recommends appointment of individual doctors but has definite plans for skeletal hospital ship units, station hospital units, and base hospital units. Associated specialists in civil life are appointed members of these skeletal units which can be expanded in time of a national emergency. The specialists so appointed must be capable of becoming chiefs of their respective specialties. During time of peace, officers of the Volunteer Naval Reserve have no obligations except to think, yet in time of a national emergency they have a definite place in a large organization. It is rather strange that in the whole State of Missouri there is not a single unit organized, while elsewhere a single city has several such units. Shall we have the right to complain in time of national emergency that the desirable positions have been seized by others and we are only followers? Now

is the time to prepare for leadership and not pass up the opportunity to establish units.

It is understood that several vacancies still exist both for individual physicians and for groups of specialists in the Volunteer Naval Reserve, and that the President of the United States will appoint physicians recommended by the Navy Department for these posts. No professional examination is required, but the desirability of each applicant for commission is carefully investigated. Physical examination must show freedom from disease and pathological defect. The Bureau of Medicine and Surgery, Navy Department, Washington, D. C., will supply detailed information on the subject of appointment in the Medical Corps of the Volunteer Naval Reserve to any physician requesting it. The doctor should state whether he seeks individual appointment or as member of a group of associated specialists in case he happens to be a specialist.

We owe it to ourselves and to our country to take an active interest in national problems; and while the country observes Navy Day let us pause in our daily routine in order that we may think. It should not be necessary to delay our thinking until winter comes.

VARICOSE VEINS AND THEIR TREATMENT

EDW. C. MANSUR, M.D.

JEFFERSON CITY, MO

One of the oldest and probably least serious of human ailments with which physicians have had to deal is that of varix. Located usually upon the lower extremities this condition causes much suffering.

Childbearing probably is the most trying cause of varix and when caused by one such period the next pregnancy adds insult to injury. Many multipara tell us that this condition with its consequent pain is the thing they most dread.

With the advent of shorter wearing apparel and thinner hose there has entered the desire, if not necessity, of correcting this condition for cosmetic reasons. Operations usually leave scars which may be even more unsightly than the original condition.

There are many patients whose varicose veins cannot be extirpated or relieved by surgical means. The medical treatment to date seems to be generally limited to strapping with adhesive or the fitting of an elastic stocking.

The method which I have found most successful is the injection of sodium salicylate.

This I use in what may be considered a mildly concentrated solution.

Years ago I began the use of intravenous sodium salicylate in the treatment of rheumatism. Soon after beginning the use of this treatment I noticed a frequent obliteration of the vein so injected. I was using 5 cc. of an 18 per cent. solution or 1 gm. sodium salicylate in 5 cc. water. This unpleasant experience caused me to abandon the use of sodium salicylate in this concentration. The use of 1 gm. in 20 cc. water with or without the addition of sodium iodide prevented such obliterative action.

The complete, practically painless and aseptic obliteration of veins in this manner suggested itself for varix. Its use in the treatment of varix, where obliteration of the vein is a thing to be desired, was tried with success. Such a simple, effective and safe method of treating this disease should place it high in the list of acceptable methods.

My technique has been as follows: Put on a tourniquet well above the place to be treated. I use and prefer for all such work the usual Tycos blood pressure band. Pump this up to about 100 mm., which pressure will be found to distend the veins below nicely. Fill a 5 cc. syringe, fitted with a small needle, with 18 per cent. sodium salicylate solution.

Insert the needle into the smallest and most distal branch of the vein to be treated and inject slowly, one minute being about proper. Just as the injection is started or as soon as the vein has been entered the air pressure in the tourniquet is reduced to 40 mm. and kept at that pressure for three to five minutes after the injection has been completed.

No dressing is needed and no precautions need be given the patient except to forbid massage. The danger from thrombus is more theoretical than actual. I have never seen it.

The patient should return in two or three days at which time the method may be repeated, using another branch of the same vein. It has not been unusual in my cases for the second visit to disclose almost complete shrinkage of the entire vein in mild cases.

Sodium salicylate in this strength solution sets up a mild, aseptic phlebitis without febrile reaction and with little or no local reaction. The vein so treated rapidly shrinks, usually without thrombus formation. Any thrombus so formed will be aseptic and need not be feared.

The effects in my hands seem to be permanent.

Jefferson Building.

TREATMENT OF INOPERABLE AND POST-OPERATIVE TUBERCULOSIS OF URINARY TRACT

Stanley L. Wang, New York (*Journal A. M. A.*, June 11, 1927), gives a description of the methods of the treatment of inoperable and postoperative urologic tuberculosis as it is administered at the Urological Department (James Buchanan Brady Foundation) of the New York Hospital. The treatment is administered along two lines, the special urologic treatment and the general and special treatment of tuberculosis. The special urologic treatment varies according to the indications in each case but includes bladder irrigations, bladder instillations, prostatic treatments, fulguration of bladder ulcers, cystoscopic observations and ureteral catheterizations. Methylene blue is administered internally and applied locally in the form of an alkaline instillation, and it is giving fairly good results. The general treatment of tuberculosis, that is, fresh air, rest and good food, is prescribed for all patients. Diets are suggested as indicated. Tuberculin is administered in suitable cases. The mercury vapor quartz lamp has been found very useful. It is almost a specific in the treatment of postoperative tuberculous sinuses of the genito-urinary tract. The sinuses following nephrectomy for renal tuberculosis, epididymectomy and orchidectomy for tuberculous yield readily to the lamp treatment. Bilateral tuberculosis of the epididymides or testes either before or after the disease has suppurated and formed external sinuses can well be given this treatment with the idea that it will help to localize and arrest the lesion as well as to help prevent its further extension. The mercury vapor quartz lamp is also used for tuberculous cystitis, applied in the same manner as in the treatment of tuberculosis of the intestine, in which it has given good results. The tuberculous cystitis patients are given biweekly treatments over the bladder region. The inoperable renal tuberculosis patients are given lamp treatments over the kidney regions. The results from this type of treatment are as yet uncertain, but the patients seem to feel that they are benefited. Heliotherapy is a very valuable adjunct, and when it is feasible it is added to the general care.

HISTORY TAKING IN BRONCHIAL ASTHMA

Bronchial asthma may be due to many different causes and an extensive history is of fundamental importance in the specific diagnosis of this disease, according to Grafton Tyler Brown, Washington, D. C. (*Journal A. M. A.*, May 28, 1927). He discusses the age of the patient, both the actual age and the age of onset of the asthma; the occupation of the patient and that of other members of the household with whom the patient comes in contact; family history; past history; the season in which the patient is most greatly affected; climate; foods (in inquiring as to the foods entering regularly into the patient's diet, it is important to remember that some of the staple articles, such as egg, milk and wheat flour, are encountered in innumerable ways); animal epidermals (in addition to actual contact with animals, careful inquiry should be made as to which of the animal epidermals, such as feathers, hair or wool, are present in the patient's environment); bacteria; pollens, and miscellaneous inhalants, such as orris root, dust and pyrethrum. The value of a history in bronchial asthma is dependent on; the care and patience with which it is taken; the physician's knowledge and appreciation of the significance of the various factors involved, which is acquired largely by experience; and the intelligence and cooperation of the patient.

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EDITORIALS

RECIPROCITY REESTABLISHED

For the first time in four years the Missouri State Board of Health resumed the issuance of licenses to practice by reciprocity with other states when the Board at its meeting in St. Louis, July 13, issued fourteen licenses on the reciprocity basis. Licenses were issued to the following: Dr. Irwin Shilling Brown, Kansas City; Dr. Walter Clifton Chaney, Kansas City; Dr. Clarence Harrison Crego, St. Louis; Dr. Richard William Denny, St. Louis; Dr. Virginia Hale, St. Joseph; Dr. Jesse Robert Haley, Kansas City; Dr. Anne V. B. Johns, St. Louis; Dr. Edmund Anderson Lodge, Kansas City; Dr. Dan Tucker Miller, St. Louis; Dr. Horace Rinaldo Minnick, Bellflower, Missouri; Dr. Arthur Augustus Reeder, Cardwell, Missouri; Dr. Harry Earle Robbins, Kansas City; Dr. William Carl Stude, St. Louis; Dr. Robert Oliver Urban, St. Louis. In addition to these licenses issued by reciprocity the Board for the first time in its history accepted the certificate of the National Board of Medical Examiners in lieu of its own examination from two applicants holding National Board certificates and granted these diplomates licenses to practice medicine in Missouri. The two diplomates are Dr. Leon Bromberg, St. Louis, Vanderbilt University School of Medicine, Nashville, 1924; Dr. Charles H. Wallace, Jr., St. Joseph, University of Pennsylvania School of Medicine, Philadelphia, 1924.

These privileges are enjoyed by the Board of Health through the adoption of the amendments to our medical practice act passed by the 1927 session of the legislature, giving the Board authority to establish reciprocity relations with other states having equal educational requirements to Missouri and to accept the certificate of the National Board of Medical Examiners in lieu of its own professional examination.

The Board has established reciprocity relations with Illinois, Indiana, Kansas, Maryland, Nebraska and Texas. The Board, however, has established a broad policy of considering the applications for reciprocity with other states even though actual reciprocal relations

have not been officially established. The only exceptions to this rule are the states of Arkansas, Colorado, Massachusetts, Oklahoma, Tennessee and Wyoming.

The basis of obtaining a license in Missouri by reciprocity is a written examination equivalent to the examination given by the Missouri Board when all requirements as to education equal the requirements of the Missouri Board. At the St. Louis meeting about one hundred applicants took the written and practical examinations for license to practice and all of them except one made a passing grade.

IN THE BIRTH REGISTRATION AREA

On September 8 the United States Census Bureau wired the Missouri State Board of Health that Missouri had been admitted to the Birth Registration Area. This news is extremely gratifying not only to the State Board of Health but also to the members of our Association and to all classes of citizens who realize the importance of accurate statistical information on the number of births and deaths that occurs in the state during every calendar year. The Board of Health is to be congratulated upon having Missouri achieve this distinction and the numerous individuals and civic bodies, including the press and the medical profession, who cooperated with the Board, should be commended for their assistance.

In order to be admitted to the Birth Registration Area the records of the Board of Health must show that ninety per cent. or more of the births are reported and recorded. The Census Bureau does not accept the statement of the Board that ninety per cent. of the births are so recorded but sends its own representative from Washington to make the check up. On two previous occasions the Board of Health asked the Census Bureau to check up our records but the investigations on those occasions failed to disclose ninety per cent. returns. This third attempt was more than successful. The Bureau reported that Missouri shows a higher percentage of returns than any other state excepting only New York.

Having gained this position among progressive states Missouri must not slacken its efforts in maintaining the record. The Census Bureau is jealous of the accuracy of its reports and does not hesitate to eliminate from the list any state that falls below ninety per cent. of births reported annually. It is therefore not only the duty but should be the pleasure and privilege of every physician in the state not only to make prompt return of all births that he has attended but to impress upon all parents the high importance of recording the birth of every child.

CAN OSTEOPATHS LEGALLY SIGN COMMITMENT PAPERS FOR THE INSANE?

In an opinion recently given to the Superintendent of State Hospital No. 2, Attorney-General Gentry declared that osteopathic physicians have the right under our statutes to sign commitment papers for admitting persons to the state hospitals (for the insane), and that the superintendents are obliged to accept such certificates as adequate authority to receive persons thus declared by an osteopath to be insane.

On another page we publish Mr. Gentry's opinion and the opinion of Mr. J. Henry Caruthers, former Assistant Attorney-General, on the same subject. It will be noted that Mr. Caruthers holds the view that osteopaths are not authorized by our statutes to sign commitment papers for insane persons. We suggest that all members read this opinion which is very exhaustive and is supported by decisions of the Supreme Court.

Mr. Gentry's opinion was hailed with great joy by some members of the osteopathic clan and they extolled him for thus exalting the osteopath. To their mind he has by a stroke of the pen shattered the shackles of sectarianism from the osteopathic profession and made it one and the same with the medical profession. In his opinion Mr. Gentry says:

The term "physician," as used by our statutes, refers to a practitioner of one of the schools of medicine; and different statutes provide for the granting of a certificate or license to such person to practice according to the teachings and practices of such school. There is a statute which provides for the granting of a license to a physician of the allopathic school, and another statute for the granting of a license to a physician of the osteopathic school. All are physicians, but have different systems or methods of treating the sick and afflicted.

Some osteopaths have accepted the Attorney-General's opinion as the law of the land, forgetting in their guileless faith that the pronouncement is merely the Attorney-General's interpretation of the law and is not by any means the final word upon the question. Should these osteopaths extend their practice into the field of pure medicine and drop their osteopathic title we fear they would find themselves enmeshed by the law which forbids the practice of medicine without a license. Furthermore, they would violate the tenets of their own peculiar dogma, which abhors and prohibits the use of drugs and medicines, and they would defy their leaders who denounce the use of drugs. That osteopaths do administer drugs, however, some of them even attempting to prescribe medicine, is well known.

Some of them, it is reported, stock their offices with a variety of remedies which they administer according to the directions on the labels and accompanying printed matter. All this shows how the osteopaths, like all sectarian practitioners, realize their limitations and encroach upon the field of scientific medicine. Such is however the history of all persons who take a short cut to any respectable vocation. Unwilling or incompetent to travel the long and difficult road that leads to the goal they take a bypath labelled "just as good" and forever after they flounder on the outskirts of the citadel they so fondly thought to enter by a side door.

Whether the superintendents of the state hospitals will accept the certificates of osteopaths in receiving inmates is a question for the superintendents to answer. The point that we would emphasize at this time is that the Attorney-General's opinion cannot in any way influence the attitude of private institutions for the insane toward accepting the certificates of osteopaths. Such institutions may make their own rules and reject the certificates of osteopaths without fear of litigation growing out of the Attorney-General's effort to lift the osteopath to the status of the regular physician.

THE ANTIVACCINATIONISTS AGAIN

Once again the antivaccinationists backed up by the League for Medical Freedom have attacked the rule of the Board of Education of St. Louis that requires all children attending the public schools of that city to be vaccinated against smallpox. The school board will hold a hearing early in October on the question of abrogating the rule or continuing it.

The mere fact that the Board of Education has consented to a hearing upon this vital problem is disturbing for the reason that it permits a doubt to enter the minds of thoughtful citizens on the firmness of the majority of the present Board in the maintenance of the rule. The Board has the support of one court decision in St. Louis declaring its rule against admitting unvaccinated children a reasonable rule and one calculated to safeguard the health of the community. In addition to that legal construction, the entire history of St. Louis, which is one of the best vaccinated cities in the country as compared with cities less stringent in the control of smallpox, and the very strong resolutions adopted by the St. Louis Medical Society opposing the abandonment of the rule, should give the Board sufficient stamina to frown upon any efforts to change its rule.

The experience in Kansas City a few years

ago and the more recent disaster in Los Angeles, not to mention Detroit's misfortune, ought to give pause to the Board of Education of St. Louis should there be any persons connected with that body with an inclination to abrogate the rule. In all the cities mentioned the regular vaccination of school children was either abandoned or neglected for several years, followed in due time with a sudden outbreak of smallpox and the usual toll of many sick children and adults and the corresponding number of deaths.

Nowhere in all the civilized world is any community safe against smallpox unless the people are vaccinated and new generations vaccinated early in life. As we write the United States Public Health Reports give 57,347 cases in India with 14,866 deaths in April, May and June; in Great Britain where the conscientious objector is permitted to go unvaccinated there were 2,361 from May 22 to August 6; in the United States for the week ending September 3 there were 123 cases with no deaths.

With a record of a hundred and thirty one years of successful prevention of smallpox by vaccination it is not likely that any community will long permit abandonment of the rule requiring vaccination of all children entering the public schools. It is to be hoped that the St. Louis Board of Education will not make the costly experiment that Los Angeles indulged so recently.

ELIMINATING AN UNDESIRABLE

The notorious Dr. T. S. Manning, St. Louis, has again become front page copy for the newspapers on account of his wholesale prescribing of narcotics. Arrested on innumerable occasions for violating the Harrison Narcotic Act, Dr. Manning seems to have been able to escape punishment through one legal technicality or another and the government seems powerless to take away his privilege to prescribe narcotics as long as he retains his license to practice medicine.

The latest news that comes to us in this connection relates that charges have been filed with the Board of Health against Dr. Manning with the view of having his license to practice medicine revoked. The basis of the charge is unprofessional conduct and bad moral character.

NEWS NOTES

The Missouri State Board of Health has changed the date of the next examination of

applicants for license to practice in Missouri from October 17-18-19 to October 25-26-27. This meeting is to be held at Kansas City.

Applications for admission to the freshman class of the St. Louis University School of Medicine numbered 483 at the opening of the present term. Of this number only 183 were accepted, 44 of them being from the university's premedical classes.

Dr. W. T. (Pat) Coughlin, St. Louis, was a guest of the Medical Society of the Missouri Valley at the meeting at Des Moines, Iowa, September 14-16, and delivered an address on "The Most Modern Method of Treatment for Trigeminal Neuralgia Major." He also gave a clinical demonstration of goiters and head injuries.

The American Dietetic Association will hold its annual session in St. Louis, October 17, 18, 19, with headquarters at the Hotel Statler. Addresses will be given by Bailey B. Burritt, New York City, James L. Fieser, Washington, Dr. F. B. Smith, Iowa City, Iowa, Dr. William H. Olmsted, Barnes Hospital, St. Louis, Dr. Icie G. Macy, Detroit, Michigan, and Dr. Henry Steenbock, University of Wisconsin, Madison, Wisconsin.

Dr. Ernest Von Quast, Kansas City, celebrated his seventy-fourth birthday anniversary August 21, 1927, at his home. Dr. Von Quast has been practicing medicine in Kansas City for fifty-four years. He is a member of the staff of Research Hospital. He has been a member of the State Medical Association since 1908 and was elected an Honor Member in 1919.

Dr. Glenn C. Carbaugh, Kansas City, has been appointed chief deputy coroner by Dr. H. E. Moss, Coroner, and began his duties September 1. Dr. Carbaugh succeeds Dr. C. S. Nelson who resigned to take up postgraduate studies in Europe following the convention of the American Legion at Paris. Dr. Carbaugh is a graduate of Harvard University Medical School, 1920, and served in the Naval Medical Corps during the war.

The alumni of the St. Louis University have drawn articles of incorporation and officers have been elected for the alumni associations of the various schools represented in the University. There are more than ten thousand alumni of the St. Louis University which is the oldest educational institution west of the Mississippi

river. For the alumni of the medical school the board of governors is composed of Dr. James F. McFadden, 1913; Dr. A. H. Kerper, 1920; Dr. H. H. Kramolowsky, 1911.

The American Board of Otolaryngology will hold an examination for those who desire to possess a certificate of this Board, at Memphis, Tennessee, on Monday, November 14. This is the first day of the meeting of the Southern Medical Association and it is hoped that a large number of specialists in ear, nose and throat diseases will apply for the privilege of taking this examination as the certificate of this Board is probably the most valuable of its kind in the world. Communications concerning the examination should be addressed to Dr. W. P. Wherry, 1500 Medical Arts Building, Omaha, Nebraska.

The cordial relations of the physicians of America, North and South, and their colleagues of the Old World were further expressed by the appointment of American representatives to the editorial cabinet of the *Acta Dermato-Venereologica* published under the direction of Dr. Johan Almkvist, of Stockholm, Sweden. The nominees are: Howard Morrow, of San Francisco, Howard Fox, of New York, J. B. Shelmire, of Dallas, D. R. Smith, of Toronto, Pardo Castello, of Havana, and Herman Goodman, of New York.

The *Acta Dermato-Venereologica* publishes original contributions in French, German, or English within the fields of dermatology, urology, and social hygiene, and items of interest of persons or progress in these specialties.

American literary contributions should be addressed to Dr. Herman Goodman, 18 East 89th Street, New York City.

The National Committee for Mental Hygiene announces that two fellowships for training in extramural psychiatry at the Institute for Child Guidance in New York City are available for properly qualified candidates. These fellowships have been created by the Commonwealth Fund to provide special training for physicians who have had hospital experience in psychiatry, but who wish to prepare themselves for community work in the fields of child guidance, delinquency, education and dependency. The fellowships are open to physicians who are (1) under 35 years of age, (2) graduates of Class "A" medical schools, and (3) who have had at least one year of training in a hospital for mental disease maintaining satisfactory standards of clinical work and instruction. Inquiries and applications should be addressed to Dr. Frankwood E. Williams,

Medical Director, The National Committee for Mental Hygiene, Inc., 370 Seventh Avenue, New York City.

The following articles have been accepted for new and nonofficial remedies:

Lederle Antitoxin Laboratories

Erysipelas Streptococcus Antitoxin (Lederle) Unconcentrated

H. K. Mulford Co.

Antivenian (Nearctic Crotalidae)—Mulford Abbott Laboratories

Acetarsone

Amiodoxyl Benzoate—Abbott

Ephedrine Sulphate—Abbott

H. K. Mulford Co.

Diphtheria Toxin—Antitoxin Mixture, New Formula, Park-Banzhaf's 0.1 L+

Erysipelas Streptococcus Antitoxin (Concentrated)—Mulford.

Nonproprietary Articles

Amiodoxyl Benzoate

Physicians of Illinois, Missouri and Iowa are invited to attend the annual fall clinical meeting of the Adams County Medical Society to be held in Quincy, Illinois, Monday, November 14.

Dr. Jabez N. Jackson, L.L.D., F.A.C.S., President of the American Medical Association and formerly President and Professor of Clinical Surgery, University Medical College of Kansas City, will be a guest of honor and will take part in the program and clinics.

Dr. Richard L. Sutton, Sc.D., L.L.D., F.R.S., Professor of Dermatology, University of Kansas School of Medicine, and Dr. William W. Duke, Ph.D., F.A.C.P., formerly Professor of Experimental Medicine, University of Kansas School of Medicine, are on the program and will hold clinics.

The names of the above men speak for themselves. These physicians are not only leaders in their specialty in Kansas City, but have international reputations for their contributions. With a surgeon, dermatologist and internist on the program, both morning and afternoon, every physician is assured enough variation of subjects to hold his attention.

The program will include clinics from 9:00 to 12:00 and from 2:00 to 5:00. A splendid banquet and evening entertainment are also being provided. Physicians from other states or counties are invited to take advantage of this all day clinical meeting.

Dr. Evarts A. Graham, St. Louis, has been selected to deliver the Shattuck Lecture in 1928 at Boston, Massachusetts. The Shattuck Lecture was established by Dr. George C. Shat-


tuck who donated the funds, the income from which was to be applied to the collection and publication at the discretion of the Massachusetts Medical Society of historical or other essays on the climate of the Commonwealth of Massachusetts or on the diseases of its inhabitants and on such other subjects as the Society might elect. In 1877 the council began to offer prizes for essays from the fund. The first year four essays were handed in, three of them of such merit that it was difficult to select the one to which the prize should be given. Subsequently no essays worthy of the prize have been offered. At a later date the committee in charge of the fund was authorized to provide for a lecture to be called the Shattuck Lecture to be delivered at the annual meeting of the Massachusetts Medical Society, the honorarium for it and the publication of it to be defrayed from the income of the Shattuck fund. The first lecture was given by the grandson of the donor, Dr. George B. Shattuck, of Boston, at the annual meeting held in 1890, the subject of his lecture being "Influenza in Massachusetts."

Mt. St. Rose Sanatorium, St. Louis, celebrated the twenty-fifth anniversary of the laying of the corner stone of its building on August 30, 1927. This institution was established in 1900 but it was not until 1902 that the building was begun. It is the oldest institution in the West for the care of tuberculous persons exclusively and originally its service was entirely free and purely charitable. With the erection of additions in 1912 and the raising of funds through private subscription the institution now has a portion of the building set aside for patients who desire to pay for their care and treatment. A large percentage of patients, however, are still cared for free of charge. It was through the efforts of Sister Helen, who was herself a consumptive, that the Sisters of St. Mary began the raising of funds to establish the sanatorium for the care of poor tuberculous persons. For two years the Sisters solicited funds and Sister Helen lived long enough to see the institution in operation. Dr. Louis C. Boisliniere, the medical director, estimates that the institution has had charity cases representing more than 1,000,000 hospital days at a cost of approximately \$3,000,000. It is the first institution in the West that began teaching the prevention of tuberculosis by the removal of the afflicted persons from the community. The institution is non-sectarian and has a capacity of 150 beds.

Dr. M. P. Overholser, Harrisonville, was

appointed Superintendent of State Hospital No. 2, at St. Joseph, August 26, and took charge of the institution on September 1. He succeeds Dr. J. H. Parker who has been appointed Superintendent of State Hospital No. 3, at Nevada. Dr. Overholser was Superintendent of the Nevada Hospital from 1912 to 1914 where he demonstrated his splendid executive abilities. One of the important innovations he established was occupational therapy for the inmates. He was a member of the State Board of Health during 1911-1912, resigning from that body to take charge of the State Hospital. Dr. Parker succeeds Dr. J. W. Bruton as Superintendent of the Nevada Hospital who resigned on account of illness. Dr. Parker has established a most enviable record in his administration of the several institutions of which he has had charge during the past few years. Appointed Superintendent of State Hospital No. 4, at Farmington, 1923, he there demonstrated that he had the qualifications for directing the affairs of such an institution in the most successful manner. When the superintendency at St. Joseph became vacant in 1925 Dr. Parker was transferred to that institution and continued to impress the Eleemosynary Board and all who had opportunity to observe his work as a highly competent executive. He is now given charge of the State Hospital at Nevada and we anticipate a continuation of his intelligent direction of the affairs of that institution and to see it emerge from its present chaotic state due to the crassly stupid political manipulation of the nonmedical department, into a well organized, smoothly running institution devoted to the relief and cure of insane persons if he is not too severely handicapped by the muddling influence of politicians.

OBITUARY

 CHARLES H. CHASTAIN, M.D.

Dr. Charles H. Chastain, Weston, a graduate of the University of Arkansas School of Medicine, 1900, died at St. Joseph's Hospital, Kansas City, August 20, 1927, from injuries received in an automobile accident, aged 52. The car which he was driving collided with a bus on U. S. Highway No. 71 about seven miles north of North Kansas City.

Before moving to Weston, Dr. Chastain practiced his profession at Farley. He was a member of the Platte County Medical Society and the State Association and a Fellow of the American Medical Association. In 1924 he

was elected vice president of the county medical society and had served as a representative from Platte County in the House of Delegates at the sessions of 1922 and 1923.

Dr. Chastain was a physician and surgeon of exceptional ability and was highly esteemed throughout Clay and Platte counties not only for his professional attainments but also for his devotion to his friends and patients and his sterling qualities as a man and friend.

CAT.

EDWARD H. HIGBEE, JR., M.D.

Dr. Edward H. Higbee, Jr., St. Louis, aged 53 years, died September 21, 1927, at St. Luke's Hospital of pneumonia following accidental lysol poisoning. He was taken ill shortly after his return from a vacation.

Dr. Higbee, a well known specialist in ophthalmology, was the son of a physician and received his medical education at the Missouri Medical College (now Washington University School of Medicine) from which he graduated in 1897. For six years he was assistant to Dr. H. L. Wolfner, establishing an independent practice twenty-four years ago. At the time of his death he was assistant professor of ophthalmology at the St. Louis University School of Medicine. He was also president of the Medical Alumni of Washington University and served on the staffs of several hospitals. Dr. Higbee was a member of the St. Louis Medical Society and the State Association, and a Fellow of the American Medical Association. He was also a member of the American Academy of Ophthalmology and Otolaryngology and the American College of Surgeons.

BOOKS FOR LEISURE MOMENTS

Although much is needed in the way of enlightenment on the subject of love not much stress has been placed upon it, therefore we are glad to recommend Dr. Joseph Collins' new book, "The Doctor Looks at Love and Life" (George H. Doran Company, New York). The publishers' frequent appeal to him, Dr. Collins says, is to "write the truth about sex," but the prudent and foreseeing physician hesitates. The reason is that the truth about sex is a large order. No one knows the whole truth and if he did he would not be allowed to tell it. Church, convention and commerce do not want it and will not have it. On the other hand, the physician has unparalleled opportunity for observing the course and fate of love and its effect upon those who experience

and display it. It is the physician's help, however, that is usually sought when the ship Matrimony goes on the rocks. From his own observation and experience and as one who has practiced medicine for a third of a century and evolved from family physician to neurologist, Dr. Collins presents this book.

Mankind has two fundamental urges: to stay alive and to reproduce his kind. It is not germane to this discussion to express an opinion as to which is the stronger. There is no uniformity about them. The purpose of mankind like that of all creation is reproduction; the nutritional urge is accessory and contributory to it. A third urge, not fundamental but one that has possessed man during the entire period of recorded history, is the self-expression urge. It is responsible for all of our sins and most of our salvation, for our accomplishments and our derelictions. Dr. Collins says he is not a theologian, but he does believe that the God who has been revealed to him through his intelligence, made him. Our bodies are a wonderful creation and should be cared for accordingly. Love is the impelling force throughout our lives. Love vaporizes the powerful urge and respect resolidifies it. Self-sacrifice is the touchstone of nobility, self-control the patient.

Very important chapters in this book are the ones on "The Sex Urge" and "Matrimony Wreckers." Human beings should be proud that they can dominate the sex urge display. Therefore we come to this question: "When should a parent tell the child about sex?" and there should be no hesitancy in deciding. Naturally, as soon as the child has reached the age when it begins to ask questions. What should the child be told? The truth. It is not necessary, not even prudent nor advisable, to tell the whole truth because neither the receptive apparatus nor the interpretive mechanism of the child is ready for it. In His wisdom God permits His mysteries to be submitted to us gradually. It is in childhood that children should be taught about sex, when we instill into them the principles of morality, honesty, truthfulness, their relation to property and to persons, their rights and obligations to themselves, the community and the state. Children have to be taught how to manage all the features of the self-preservative urge, and we begin the instruction before they can lisp; why then should they not be taught how to manage the race preservative urge as well and before they can lapse? If the matter is presented in a scientific spirit it will be received by the vast majority of children as the teachings of botany or of geography. Proper parental supple-

mentation will readily keep it out of the realm of pruriency.

There are many causes for the frequent failures of matrimony and the responsibility for these come mainly from two sources: jealousy and adult-infantilism. Jealousy has the power to transform the god in man to demon, and its power to deform the soul and to dethrone reason is measureless. No human weakness, no moral deformity has been described in such detail and with such vividness by dramatist and novelist, philosopher and physician. Adult-infantilism is a menace to the individual and to the nation. What is meant by this designation? It is the condition and conduct of an individual who having reached maturity of physical development remains infantile in his responses to the demands and obligations of life. Adult-infantilism is responsible for more social maladjustment and more family discord and more intellectual vagrancy than any disease, derangement or other disharmony of mind and body. It is our chief deficiency as a people, our most conspicuous national shortcoming.

The author discourses to a great length on the character of the late William Jennings Bryan who, he says, exerted a more pernicious influence upon this country than any man of his time. He declares that Bryan's infirmity was adult-infantilism.

In the chapter, "Voices Crying in the Wilderness," he contends that we must make ourselves understand that the sole aim of education is enlightenment. Enlightenment and toleration are twins who cultivate the fields of liberalism and democracy. We must know that toleration is the backbone of democracy and that courage is the heart of civilization.

It is with great sanity and frankness that this famous neurologist places before us the facts concerning the vital forces of life. He recognizes in sex the great factor of our social being. He convincingly reminds us that the greatest pitfalls of sex are those of ignorance, and explains much that has been misunderstood and misinterpreted.

L. C.

A new book entitled "The Religion Called Behaviorism" (Boni and Liveright, New York) comes to us from the pen of the noted Dr. Louis Berman. Coming from so important a scientific worker in the chemistry of human behavior this is the most significant attack on the principles of Behaviorism that has yet appeared. Not only does Dr. Berman indict Behaviorism for the dogmatic "religious" qualities it has developed, but he criticises it in the light of important new discoveries which virtually displace it as a scientific hypothesis.

The author says that followers of Behaviorism believe that the world today urgently needs a great new religion. That slowly but steadily a powerful religion is growing into maturity in the United States as a result of a new psychological movement. It calls itself Behaviorism. Then he defines religion as being a self-conscious attitude toward life, which appeals to invisible and intangible powers for help and inspiration and produces an effect on conduct as well as feeling. This is the definition for Behaviorism. He says that a great amount of audacity is involved in speaking of this as a religion. A religion consists of a self-conscious attitude toward life. It consists of gestures toward the universe. A form of worship may or may not be implicit. The ultimate test of every religion is its effect upon conduct as well as feeling, its reactions upon behavior. The contentions are that Behaviorism fulfills all these requirements for a religion.

Now comes the question, What has Behaviorism accomplished? Dr. Berman says that he writes "not as the voice of authority, nor as a deliberately hostile critic, nor as a consciously sympathetic exponent." Instead, he writes "as one who has been forced in the exigencies of medical practice dealing with human personalities, to come to grips with the doctrines of Behaviorism both in the problems of human maladjustment and breakdown and in the human ideal of supreme perfection yielding to weakness of the body or maladies of the soul." In the first place, Behaviorism has thrown a certain amount of new light upon the learning process. The ability to learn has been defined as the criterion of intelligence. In a certain sense, the learning process, the ways and hows of habit formation, may be said to be the central problem of psychology. Learning may be defined as a change in the behavior of an organism caused by a change in its environment, which change in behavior recurs whenever the causative change appears again in its environment. Again, to explain the learning process, the Behaviorists have exploited what is called the conditioned or associated reflex or reaction. Any learning process, after elimination of errors, may be analyzed into a series of substitute reactions; the mystery of the conditioned reflex contains the heart of the mystery of personality. To the Behaviorist learning is living.

In a few very brief chapters, Dr. Berman sketches the work of Thorndike and Watson and sets forth the basic ideas they have announced, summarizing them by stating that they believe thinking is merely the movement of certain muscles. There is no getting away from the fact that the movements of the human organism are inextricably intertwined with the

complex of feeling, awareness and purpose which we call consciousness. The conditions under which conscious behavior appears and disappears, the variations and the control of those conditions cannot be thrown out of any genuinely scientific court as incompetent, irrelevant or immaterial.

An important part of this book is the presentation of the "Gestalt" theory of behavior, which seems to be too little known in this country. The word "Gestalt" is the German for form or pattern. The "Gestalt" movement may be looked upon as the German retort to American "Behaviorism." In the course of his criticism Dr. Berman gives us the first comprehensive treatment to reach this country of the "Gestalt" theory of Dr. Kohler and other noted scientists, which is regarded in Europe as the most important contribution to psychology since Freud. From the standpoint of "Gestalt" it is possible to develop a workable conception of human freedom. In fact, it makes possible the possible in life, not as a result of the impact of chance upon habits but as the result of a participation of the organism, of the self, in the determination of the patterns it weaves as it behaves.

To the thoughtful person who is able and willing to use his mind, this book will be a joy. It is delightfully written and Dr. Berman proves himself to be a worker in the fields whereof he writes and a specialist in the clinical problems of the relationship of the body and soul. The book is clearly written, the satire is delicious and the logic cool and sound. Many of those acquainted with his previous writings have put him down as a Behaviorist, hence the need for giving this book to the public and his friends.

L. C.

One of the clearest and most practical and profitable volumes recently written on an intensely practical subject is "Modern Marriage," by Paul Popenoe (The Macmillan Company, New York). Considering the vast amount of attention being given this subject in present day literature, enhanced by the ever increasing number of divorces, Popenoe's book is indeed timely. Its real worth lies in the fact that it is written in a style that should appeal to the general public. The subject is handled with a simplicity that, unburdened by any conceptions of false modesty, is refreshing. Any one can read the book and understand exactly what the author means to say.

Mr. Popenoe's thesis is that the real objective of marriage is home building and home companionship, the real objective of life the reproduction and training of children. This

thesis is stated in his first chapter under the caption, "Why Marry?" Having stated his premise the author proceeds to discuss what he calls "substitutes" for marriage, such as celibacy, prostitution, free love, and the like, all of which he weighs in the balances of logic and experience and finds wanting. His discussion of the doctrine of free love, alarmingly prevalent in certain circles, is illuminating; his conclusion that "free lovers are commonly not thinking of children, but of themselves," is unquestionably true.

In the next two chapters Mr. Popenoe discusses the very important questions of *who* should marry and *how*. The former is treated from the viewpoints of health, compatibility, race and age. These matters are discussed both biologically and psychologically. It is invigorating to note his conclusion that the fusion of races tends in the direction of degeneracy—a fundamental truth which is very likely to be overlooked in this day of shallow thinking. The author declares his belief in certain eugenical standards, at the same time admitting it to be the natural tendency of young men and women to discard such considerations under the glamour of romance,—a false halo which often precipitates marriages that have no lasting qualities. He even goes to the trouble of listing different standards which have been proposed by experts on the subject of eugenics.

In discussing the question of *how* marriage should be approached, Mr. Popenoe looks at the various methods of courtship on the part of both male and female. He even gives some attention to that extraordinarily important event, the Proposal, stating that in addition to "the Time, the Place and the Girl," there should be what he calls "the Plan." As to the Plan, he admits that he has not the temerity to "make any detailed suggestions."

Chapter IV is a discussion of the engagement period, which the author terms the "educational period." Here he emphasizes the modern girl's lack of training in the essential duties of housekeeping and the rearing of children, and declares that "it is a disgrace to modern civilization that girls' education should be thus defective." He encourages frankness between man and woman during the betrothal period on such questions as the desire for children, possible inability to have children, possibility of venereal diseases which might impair the health of the children to be born, and other like intimate matters which should be discussed, he contends, freely and frankly by the parties about to take the marriage vows. While he does not discredit the romantic aspect of the institution, he pleads for sensible consideration

of the things which may affect, in one way or the other, the achievement of the real objective of the marriage relationship as stated in the first chapter.

On the subject of "Children," his introductory declaration is that "the production of children is the goal of all life." Six reasons are given for placing such a high value on child-bearing and progeny, viz: 1. "They give a unique experience and education to the parents." 2. "They bind the parents together." 3. "They bring rejuvenation." 4. "They give love in old age." 5. "They give assistance in old age." 6. "They confer immortality." He argues that sex cannot be predetermined by any human scheme but that it is determined solely by chance. He rejects as an old wives' fable the idea of "maternal impressions" or prenatal influences. He also treats such important subjects as infertility, preparing for childbirth, diseases that affect marriage and children, and matters of like import.

If every young man and woman contemplating the holy bonds of matrimony could be given a copy of this volume and in some way be made to read it thoroughly and give serious thought to the matters presented therein, wholesome and beneficial results would undoubtedly follow. Mr. Popenoe truly tears away the veils of pretense, superstition and false modesty which have heretofore surrounded this divine yet most practical of all human institutions.

L. C.

The Macmillan Company's latest catalog of books for boys and girls is now ready for distribution. Needless to say, any volume bearing the imprint of this company may be expected to be of the finest quality both in composition and in contents. Juvenile books for every age are listed, including not only the latest works by present day story-tellers, but also such well known classics as "The Adventures of Pinocchio," "Grimm's Fairy Tales," "A Child's Garden of Verse," "Captain Boldheart," and many others. All are profusely illustrated. Busy mothers who are anxious to provide for their children pastime that will be educational as well as entertaining will no doubt find exactly what they want in the "Work and Play Books" listed on pages 34-35. A letter addressed to the Macmillan Co., 60 Fifth Ave., New York City, will bring this catalog free to any one interested.

L. C.

MISCELLANY

SHALL OSTEOPATHS SIGN COMMITMENT PAPERS FOR THE INSANE?

Opinion of North T. Gentry, Attorney General

Jefferson City, Mo., August 24, 1927.

Dr. J. H. Parker,
Superintendent, State Hospital No. 2,
St. Joseph, Missouri.
My dear Sir:

I am in receipt of your letter of the 18th, in which you asked for my opinion as to whether or not a regular licensed osteopathic physician is authorized by law to certify to the fact that a person is insane and a proper patient to be sent to a state hospital.

Article VII, Chapter III, of Revised Statutes of Missouri, 1919, provides that pay patients shall be admitted into such hospital upon the execution of certain papers; first, a request to be signed by the person by whose direction the insane person is sent, stating his age, residence, etc., and, second, a certificate signed by two physicians certifying that they have examined the patient and believe him to be insane and a proper person to be sent to the state hospital.

The term "physician," as used by our statutes, refers to a practitioner of one of the schools of medicine; and different statutes provide for the granting of a certificate or license to such person to practice according to the teachings and practices of such school. There is a statute which provides for the granting of a license to a physician of the allopathic school, and another statute for the granting of a license to a physician of the osteopathic school. All are physicians, but have different systems or methods of treating the sick and afflicted.

Osteopathy was first officially recognized in Missouri as a method of treating the sick by the act of 1897 which provided for the filing with the county clerk of a diploma from the school of osteopathy, which authorized the holder of such diploma to practice in such county. The act of 1903 provided for a State Osteopathic Board of Examination and Registration, and the granting of a certificate to a graduate of an osteopathic school; and this act appears in Chapter 79 Revised Statutes of Missouri, 1919. Under this statute the holder of such certificate is termed "osteopathic physician," and now Section 9206, Revised Statutes of Missouri, 1919, requires such person to "observe and be subject to the state and municipal regulations relating to the control of contagious diseases, the reporting and certifying of births and deaths and all matters pertaining to public health, and such reports shall be accepted by the officer or department to whom such report is made." Penalties are provided for persons who practice or attempt to practice as an osteopathic physician without first obtaining a certificate as provided by the Statute. Section 9204 of our present statute requires that an osteopathic physician shall produce evidence of good moral character, also evidence that he is a graduate of a school of osteopathy and that he has been "on personal attendance and completion of the course of study of not less than three years of nine months each"; and such person shall stand "an examination in the subjects of anatomy, physiology, psychological chemistry, toxicology, pathology, diagnosis, hygiene, obstetrics, gynecology, surgery, principles and practices of osteopathy and such other subjects as the board may require." These constitute most of the subjects upon which persons are ex-

amined for license to practice medicine and surgery; see Section 7332, Revised Statutes of Missouri, 1919. In addition, Section 9209, authorizes the State Osteopathic Board of Examination and Registration to revoke the certificate of any osteopathic physician upon complaint and proper investigation by such board.

All of this shows a clear intention on the part of the law-making body of recognizing one who has complied with the requirements of the chapter entitled "Osteopathy" as an osteopathic physician. The fact that an osteopathic physician is required to comply with state and municipal regulations relating to the control of contagious diseases and is authorized to minister to the sick and dying and to officiate at births, as other physicians, is further proof of the statutory recognition of such person as a physician. Besides, an osteopathic physician is required to report and certify births and deaths the same as other physicians, and his reports "shall be accepted by the officer or department to whom such report is made."

In two instances, the Missouri Supreme Court has had before it the question of treatment of persons by osteopathic physicians and the Court recognized osteopathy as a system, method or science directed to the treating of diseases of the human body, and recognized the head of that school as a physician.

Grange vs. Still, 187 Mo. 1. c. 222;

Atkinson vs. School of Osteopathy, 240 Mo. 352.

If the Legislature has intended that only physicians of one school of medicine should sign a certificate for the admission of a patient into the state hospital, it certainly would have said so in one of the acts herein mentioned. But, having recognized the graduates of the school of osteopathy as physicians, there is no escape from the conclusion that the Legislature intended to authorize an osteopathic physician to make such a certificate and the acceptance of such certificate by the state hospital authorities.

I am, therefore, of the opinion that you should accept of a certificate when properly signed by an osteopathic physician.

Very sincerely yours,

NORTH T. GENTRY,

Attorney General.

NTG:MVZ
EMD

**Opinion of J. Henry Caruthers, Former Assistant
Attorney General**

St. Louis, Mo., September 20, 1927.

Dr. E. J. Goodwin,
Sec'y Missouri Medical Ass'n,
901 Missouri Building,
St. Louis, Missouri.
My dear Doctor:

You have asked me whether the use of the word "physicians" in Secs. 12274 and 12276, R. S. 1919, relating to state hospitals, includes the class of practitioners known as "osteopaths."

You are advised that it is my opinion that osteopaths are not included or contemplated in the use of said word, for the following reasons:

Said sections 12274 and 12276, relating to State Hospitals (referred to as asylums in first legislation thereon) were enacted prior to 1855, long before the system of osteopathy was known or recognized by the Legislature. Section 12274 provides that an applicant, or some one for him, for admission to a State Hospital, must make a written request containing certain specified information, certified to under oath by "two physicians."

Section 12276 requires said "certificate of two physicians" to "be substantially of the following form":

"State of _____ }
County of _____ } ss.

"We, _____ and _____, of the County and State aforesaid, physicians, do hereby certify that we have this day seen and examined (here insert name of the patient) of the County of _____, and believe _____ to be insane, and a proper patient to be sent to State Hospital No. _____

"The above-named _____, being duly sworn, say that they are practicing physicians of the County aforesaid, and that the facts stated in the above certificate, by them subscribed, are true according to the best of their knowledge and belief.

Sworn to and subscribed before me this _____
day of _____, 19____.

Notary Public."

This form is in identically the same language as the Revised Statutes of 1855, and without doubt is the same as originally enacted. (The original Act is not in the office.)

The first Osteopathic Act was passed by the Legislature in 1897 (Laws of Missouri, 1897, p. 206), more than 42 years after the above sections were passed. Said Act of 1897 contained the following provision (Sec. 1):

"The system, method or science of treating diseases of the human body, commonly known as osteopathy, and as taught and practiced by the American School of Osteopathy of Kirksville, Missouri, is hereby declared not to be the practice of medicine and surgery within the meaning of Article I, Chapter 110 of the Revised Statutes of Missouri of 1889, and not subject to the provisions of said Article."

This section has been carried down to the present statutes in the same language. The original act made no reference to the use of letters or words indicating the title an osteopath might use. Sec. 9208, R. S. 1919, prohibiting the use, without first complying with the provisions of the chapter relating to osteopathy, any of the forms or letters, "osteopathy," "osteopath," "osteopathist," "diplomat in osteopathy," "D. O.," "osteopathic physician," "doctor of osteopathy," was enacted in 1903, more than 48 years after the passage of said Sections 12274 and 12276 (Laws of Missouri, 1903, p. 248), and has been carried forward without change into the present statutes.

It is a well known historical fact to those who have kept in touch with or investigated the development and progress of legislation concerning the practice of medicine and surgery and the practice of osteopathy in Missouri, that there was in the beginning, and is now, with evident abatement, a spirit of aloofness, not to say hostility, existing between the two systems of healing. This fact is emphasized by the opening section of the original Osteopathic Act above set out and is the first section of the present act (Sec. 9202, R. S. 1919). It was the clear purpose of the Osteopathic Act to segregate the practice of osteopathy from the practice of medicine, as the latter is generally understood.

Nowhere in the Osteopathic Act at any time has the word "physician" been used alone, but it has always been qualified, when used, with the word "osteopathic."

The word "physicians" contained in said Sections 12274 and 12276, unquestionably has been used in its technical and professional sense. Webster says a physician is "a person skilled in physic or the art of healing; a doctor of medicine."

However, whether considered in its technical and professional sense or in its ordinary and usual sense, as provided by Sec. 7058, R. S. 1919, relating to rules for construing statutes, the result is the same. When the Act relating to asylums (now State Hospitals) was enacted prior to 1855—more than 42 years before osteopathy became known—the Legislature obviously could not have had in mind an osteopathic physician.

It is, and has long been, the legislative policy of this State, to subject all recognized classes of healers to public health regulations. Recent examples are found in Section 7338, R. S. 1919, as amended, Laws of Missouri, 1927, p. 299, which subjects to said regulations that class which "endeavor to cure or prevent disease or suffering by spiritual means or prayer," and Sec. 6, Laws of Missouri, 1927, p. 135, relating to chiropractic practitioners.

It is interesting to note the similarity between the section last referred to and Sec. 9206, R. S. 1919, which latter requires osteopaths to observe public health regulations. For a quick comparison the two sections are herewith set out in apposition:

"Osteopathic physicians shall observe and be subject to the State and municipal regulations relating to the control of contagious diseases, the reporting and certifying of births and deaths and all matters pertaining to public health, and such reports shall be accepted by the officer or department to whom such report is made."

"Chiropractic practitioners shall be subject to the State and municipal regulations relating to the control of contagious diseases, the reporting and certifying of deaths and all matters pertaining to public health, and such reports shall be accepted by the officer or department to whom such report is made."

No one will contend that chiropractors are thereby authorized to examine and pass on the mental condition of any person seeking admission to a State Hospital and to sign the required statutory certificate appended thereto as a "physician." Nor will one familiar with the legislation pertaining to these different classes of healing seriously contend that a chiropractor is a "physician," although there is as much statutory authority to so designate a chiropractor as an osteopath.

Happily, the Courts of Missouri have passed upon the question as to whether an osteopath is a physician or not.

In the case of Grainger vs. Still, 187 Mo. 197, the Supreme Court said, at page 224:

"In other words, osteopaths are not physicians or surgeons in any of the departments of medicine or surgery, but may cure or relieve any disease of the human body, according to the system, method or science, as taught by the American School of Osteopathy of Kirksville, Missouri, or any other legally chartered and regularly conducted school of osteopathy."

The Springfield Court of Appeals, in the case of LeGrand vs. Security Benefit Association, 240 S. W. 852, had before it the question of whether an applicant for membership and a life insurance policy in the Knights and Ladies of Security, a fraternal organization, made a false answer when he said "No" to the question, "Have you either consulted

professionally or been treated by a physician within the past five years?"

It appeared that applicant had consulted and was treated by an osteopath in January, prior to making the application in June. The Court of Appeals quoted the above excerpt from the case of Grainger vs. Still, and said, at page 854:

"There was no evidence that the insured consulted anyone claimed to be a physician, except an osteopath; hence Instruction C was properly refused."

Instruction C told the jury, in effect, that when applicant consulted an osteopath he had consulted a physician and surgeon, and the instruction was refused on the theory that an osteopath is not a physician or surgeon within the meaning of these terms.

If an individual in 1919 (the year said application was made), when signing a private paper, wholly separate and apart from any public statute or document, should declare that he had not consulted a physician or surgeon within a given time prior thereto, when, as a matter of fact, he had within said time consulted an osteopath, is held by the Courts to have made a correct statement, then by what sort of reasoning or logic could it be said that the Legislature, prior to 1855, many years before osteopathy was known, could have had in mind and intended to include osteopathic physicians when enacting the law relative to asylums or State Hospitals?

Therefore, in view of the foregoing authorities, both statutory and judicial, it is my conclusion that an osteopath is not a "physician" within the meaning and use of the word "physicians" in the aforesaid sections relating to applicants for admission to our State Hospitals. [No practitioner of the healing art, except those "who endeavor to cure or prevent disease or suffering by spiritual means or prayer" have any authority to so engage unless such authority is found in the statutes.]

Although there may be, and doubtless there is, a change in the sentiment, both professional and lay, existing at this time, as compared to the period of twenty-four years ago, when said Sec. 9208 was first enacted, such change, however marked, cannot and does not alter statutes, rules of construing them, or Court decisions relating thereto. Modification of these matters rests alone with the Legislature of Missouri, and until it acts in the premises, the law as above set out must be recognized.

Respectfully submitted,

J. HENRY CARUTHERS.

JHC/MEK

HYPOTENSION

Six cases of essential or incidental hypotension in one family, five of which are in one generation—three brothers and two sisters, and the sixth a son and nephew, are reported by John D. Garvin, Pittsburgh (*Journal A. M. A.*, June 11, 1927). One of the patients is a physician, one a lawyer, one a merchant, one a farmer, and the two female patients do housework. The family is one characterized by extreme activity, efficiency in hard work, and splendid physique, and is of a stock noteworthy for its longevity. There are absolutely no evidences of failing myocardia to which such pressures might be attributed. The systolic blood pressure of these six persons varied from 94 to 108. Only two records were over 100. The diastolic pressure varied from 66 to 70—the pulse pressure from 22 to 38. It is suggested that hypotension, like hypertension, may be hereditary.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1927

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

- Camden County Medical Society, December 31, 1926.
Holt County Medical Society, January 21, 1927.
Iron County Medical Society, March 4, 1927.
Madison County Medical Society, March 9, 1927.
Dent County Medical Society, April 2, 1927.
Ralls County Medical Society, April 4, 1927.
Platte County Medical Society, April 7, 1927.
Atchison County Medical Society, April 9, 1927.
Chariton County Medical Society, April 15, 1927.
Montgomery County Medical Society, May 7, 1927.
Vernon-Cedar County Medical Society, August 1, 1927.
Christian County Medical Society, August 3, 1927.
Lafayette County Medical Society, August 11, 1927.
Bates County Medical Society, August 16, 1927.

CASS COUNTY MEDICAL SOCIETY

The Cass County Medical Society held its regular quarterly meeting at The Peoples' Theater, Pleasant Hill, Sept. 8, and was host to members of the Bates, Lafayette, Henry and Johnson county medical societies, two members of the State Board of Health, the President and the Secretary of the Missouri State Medical Association.

The President, Dr. A. H. Baldwin, Pleasant Hill, who is also Cass County's efficient state representative in the legislature, called the meeting to order at 2 p. m.

Following reading minutes of the last meeting, Dr. W. G. Thompson, Holden, read a very interesting and well prepared paper on "Relation of Surgeon, Internist and Roentgenologist." This was discussed by Drs. Nifong, Baldwin and Thompson.

Dr. George Thiele, Butler, read a paper on "Danger of Infections of the Face and Scalp," and illustrated some cases with pictures. This paper was discussed by Drs. O. J. Dixon, Kansas City, C. L. Conrad and A. H. Baldwin, Pleasant Hill.

Dr. James Stewart, State Health Commissioner, Jefferson City, very ably discussed "Various Activities of the State Board of Health."

This department of the state has advanced to a gratifying degree since Dr. Stewart has been connected with it. The public hardly realizes what it owes to scientific medicine, unless or until the fact is specifically pointed out; that epidemics of small-pox, diphtheria, scarlet fever; typhoid and malarial fevers, and other infectious and contagious diseases, which are now preventable, do not prevail or excite terror by their high death toll as they did a few years ago.

Dr. R. L. Laybourn, Jefferson City, Bacteriologist to the State Board of Health, explained more in detail how the laboratory is conducted and how

it cooperates with and assists the general practitioner of the state.

Dr. Frank G. Nifong, Columbia, President of the Missouri State Medical Association, discussed "Rural Medical Problems."

Among the things which the state of Missouri should do for its citizens is to provide a full medical education and graduate its medical students at the State University. And Dr. Nifong says it can be done, and why not? Our State University will not attain its highest usefulness until it provides the full medical course at Columbia.

Dr. E. J. Goodwin, Secretary of the Missouri State Medical Association, who has served us so faithfully and so conscientiously and whom we all so highly respect, addressed the meeting on affairs of the Association.

It was a rare pleasure to have these able, efficient and hard working state officials with us, and to hear their words of encouragement and advice.

Mrs. H. A. Brierly, Peculiar, a member of the Women's Auxiliary to the Cass County Medical Society, responded to an invitation to explain her method of "How Hygeia May Be Used in the Public Schools." Mrs. Brierly also made the announcement that the Auxiliary had raised a sufficient amount of money to place Hygeia in every school in Cass County, a highly commendable accomplishment.

Following the above program, a picnic supper was served by the Auxiliary at the beautiful home of Dr. and Mrs. A. H. Baldwin.

J. S. TRIPLETT, M.D., Secretary, Pro. Tem.

DAVIESS COUNTY MEDICAL SOCIETY

The Daviess County Medical Society met at the home of Dr. J. D. Dunham, Pattonsburg, Wednesday, August 31.

Dr. Leslie H. Dunham, Danville, Illinois, son of Dr. J. D. Dunham, addressed the Society on "Malignancies." Dr. Dunham gave a wonderful and instructive address, illustrating his subject with many X-ray pictures of his own preparation and selection. During the course of the lecture, Dr. Dunham dwelled a great deal on the use of radium and deep therapy in the treatment of cancers and other tumors. He has given a great deal of time to the study of this subject and has specialized in the scientific use of radium in the treatment of many diseases and X-ray as a definite means for diagnosis.

The Society considered it very fortunate to have had the opportunity to have Dr. Dunham with us at this time. He came here direct from Kansas City where he lectured before a meeting of X-ray and radium specialists.

N. M. WETZEL, M.D., Reporter.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met in the county courtroom of the courthouse, Clinton, July 21. The following members were present: Drs. W. E. Baggerly, La Due; J. R. Hampton, S. A. Poague, N. I. Stebbins, G. S. Walker, S. W. Woltzen, E. C. Peelor and J. G. Beaty, Clinton; J. W. Galbreath, Urich; J. J. Russell, Deepwater.

Dr. George Knappenberger, Kansas City, presented a paper on "Chronic Indigestion; Its Nature and Treatment."

Dr. Myron T. Black, Kansas City, talked on "Bronchoscopy and Esophagoscopy."

The papers were discussed by all present and the Society extended a vote of thanks to Drs. Knappenberger and Black for their excellent papers.

S. W. WOLTZEN, M.D., Secretary.

SALINE COUNTY MEDICAL SOCIETY

The Saline County Medical Society, with the Women's Auxiliary, held their regular session after a one o'clock luncheon at the New Virginia Hotel in Marshall, Wednesday, September 14. There were twelve members and four visitors present.

Miss Ferguson, of the Missouri Tuberculosis Association, who was in Marshall in the interest of the Association, made a very interesting address on the work they are doing.

Dr. W. M. Bickford brought to the attention of the Society the fact that the examination of students and the care of the athletic teams of the Missouri Valley College, located at Marshall was being done by an osteopath. After some discussion on this matter a motion was made, seconded and carried that the services of any of the members of the Saline County Medical Society be offered to the Missouri Valley College in this capacity and a committee appointed to confer with the president of the college on the subject. The committee appointed consisted of Drs. David F. Manning, W. M. Bickford and A. E. Gore, Marshall.

The application of Dr. R. G. Haynes was received and referred to the Board of Censors.

Dr. Luther James, Blackburn, presented an interesting case of Birth Paralysis which was freely discussed by the members present.

Dr. Ernest G. Mark, Kansas City, gave a talk on "Kidney Stone." He covered his subject in a most masterly manner, presenting X-ray pictures to demonstrate his points. His paper was well received and a resolution of appreciation was adopted by the Society in recognition of Dr. Mark's meeting with us and reading his paper.

H. R. CONWAY, M.D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The St. Louis County Medical Society held their regular meeting in the Directors' Room of the Webster Groves Trust Company, September 14, Dr. H. N. Corley, president, presiding. The minutes of the May 11 meeting were read and approved. The following members were present: Drs. Frank P. Gaunt, H. N. Corley, A. W. Westrup and C. C. Irick, Webster Groves; J. H. Armstrong, Kirkwood; J. A. Townsend, Eureka; Otto N. Schudde, Ferguson; E. E. Tremain, Maplewood; James B. Sudduth, Clayton; Otto W. Koch, St. Louis.

As no scientific program had been arranged for this meeting, the time was given over to the discussion of medical ethics and the handling of medical accounts.

Dr. J. H. Armstrong opened the discussion by giving a brief history of the Society, mentioning the fact that he with Drs. Marshall Baker, Leander Cape and Otto Koch were the only remaining charter members. The object of the Society was the organization and affiliation of the medical profession for mutual helpfulness in the county.

There are physicians practicing in the county who are not ethical, not because they want to be unethical, Dr. Armstrong states, but because they have not been properly trained. If every physician in the county would adopt the motto, "Do unto others as you would have them do unto you," Dr. Armstrong

thinks the problem of medical ethics would be solved.

Plans for a county hospital were discussed. The members agreed that there was great need for a hospital which should be staffed by county doctors. The meeting adjourned at 4 p. m.

C. C. IRICK, M.D., Secretary.

STODDARD COUNTY MEDICAL SOCIETY

The bi-monthly meeting of the Stoddard County Medical Society was held at Bernie, Wednesday evening, September 14, in the high school auditorium. Dr. T. C. Allen, secretary, presided in the absence of the president, Dr. S. S. Davis. It was a public meeting, the first venture of this kind made by the Society and the result fully justified the experiment. About 700 citizens attended and the program was an entertaining and instructive one. Representative citizens from different parts of the county were present, including lawyers, preachers and teachers. Members in attendance were: Drs. W. C. Caldwell, Bloomfield; Frank LaRue, Dexter; John P. Brandon and William J. Hux, Essex; T. C. Allen, Bernie. Drs. Charles S. Blackman and Edward J. Ford, Parma, members of New Madrid County Medical Society, were visitors.

The people of Bernie rendered a very entertaining program as follows: Concert by the Bernie Concert Band, a selection by the second grade orchestra of the public school, a violin solo by Wendell L. Allen, a vocal quartette by Mesdames Allen and Goad and Messrs. Whitlow and Williams, and a piano solo by Miss Ruth Morgan.

Miss Summers, of the Missouri Tuberculosis Association, was present and made a short talk on the work of that Association.

Attorney George W. Munger, Bloomfield, delivered an address on "The Relation of Physician and Patient." It was an able, clear, learned and plain talk and was highly appreciated by all present.

Dr. W. J. Hux read a paper on "Popular Fallacies in the Lay Mind." This was a very intelligible exposition of many erroneous ideas held by the people about physicians and disease. It was strongly applauded by the audience and largely discussed by many laymen. The body unanimously asked for its publication in the county papers.

T. C. ALLEN, M.D., Secretary.

WRIGHT-DOUGLAS COUNTY MEDICAL SOCIETY

The Wright-Douglas County Medical Society met in Dr. Van Noy's office at Norwood, Thursday afternoon, September 8, at two o'clock, with the following members present: Drs. R. M. Norman and J. L. Gentry, Ava; J. A. Fuson, Mansfield; R. A. Ryan, A. C. Ames, and E. C. Wittwer, Mountain Grove; L. T. Van Noy, Norwood. Visitors present: Drs. George W. Hogeboom and Francis B. Camp, Springfield, and Mrs. Virginia Misenhimer, a nurse representing the Missouri Tuberculosis Association, also from Springfield. Dr. Gentry's son, a medical student, was also present. The meeting was called to order by Dr. Norman, the vice president, acting as president since the death of Dr. Rogers. The minutes of the last meeting were read and approved.

The president appointed Drs. Ames, Van Noy, and Fuson as a committee to draft resolutions on the death of Dr. Rogers. The Committee reported the following which was adopted by the Society:

"Resolved. That in the death of Dr. R. M. Rogers, of Mansfield, the Wright-Douglas County Medical Society has lost one of its most faithful members and the people of his community a conscientious medical attendant, and his loss will be sincerely felt by all who knew him. Dr. Rogers was one who always tried to live in a way that his medical colleagues would be his best friends and as a rule they all felt the same way toward him."

After the routine business was disposed of Mrs. Misenhimer told of the work of the Missouri Tuberculosis Association and presented a proposition for a tuberculosis clinic such as are being held at various points throughout the state. The plan was discussed but no definite action taken.

Dr. Hogeboom presented the subject of "Ureteral Calculi" which seemed to explain a group of cases with obscure symptoms that usually remain undiagnosed.

Dr. Camp presented the subject of the "Cardiac Patient" and discussed the characteristics of some of the more common heart lesions.

Both papers were illustrated by many X-ray plates and were much appreciated. No one felt able to add anything by way of discussion.

Dr. Van Noy brought in a boy about ten years of age who complained of obscure pains in the abdomen. A positive diagnosis was not made but chronic appendicitis, worms, and a toxic condition from the tonsils were suggested as possible causes. Inasmuch as the tonsils were infected he was advised to have them removed and watch the results. A vermifuge was also suggested.

The meeting adjourned at 4:30 to meet in Mansfield in November.

A. C. AMES, M.D., Secretary.

WOMEN'S AUXILIARY

OFFICERS 1927-1928

President, Mrs. William M. Bickford, Marshall.
President-Elect, Mrs. Willard Bartlett, St. Louis.
1st Vice President, Mrs. A. W. McAlester, Kansas City.

2nd Vice President, Mrs. W. T. Martin, Albany.
3rd Vice President, Mrs. T. O. Klinger, Springfield.
4th Vice President, Mrs. M. P. Ravenel, Columbia.
Corresponding Secretary, Mrs. L. S. James, Blackburn.

Recording Secretary, Mrs. M. A. Hanna, Kansas City.

Treasurer, Mrs. T. J. Draper, Warrensburg.

Directors (2 years): Mrs. A. B. McGlothlin, St. Joseph; Mrs. D. S. Long, Harrisonville; Mrs. George H. Hoxie, Kansas City; Mrs. Frank Hinchey, University City; Mrs. C. T. Ryland, Lexington (1 year); Mrs. M. P. Overholser, Harrisonville; Mrs. H. F. Parker, Warrensburg; Mrs. R. W. Berrey, Mexico; Mrs. J. G. Montgomery, Kansas City; Mrs. W. F. O'Malley, Webster Groves.

HENRY COUNTY AUXILIARY

The Women's Auxiliary to the Henry County Medical Society met at the Clinton Hospital, July 21, with Mrs. Marie Strickland and Mrs. N. I. Stebbins. Those present were: Mrs. A. A. Gray, Calhoun; Mrs. J. J. Russell, Deepwater; Mrs. S. A. Poague, Mrs. J. R. Hampton, Mrs. G. S. Walker, Mrs. N. I. Stebbins, Mrs. R. D. Haire and Mrs. S. W. Woltzen, Clinton; Mrs. Marie Strickland.

Mrs. J. J. Russell contributed an abundance of beautiful flowers for the meeting.

A delicious luncheon was served by the hostesses.
Mrs. S. W. WOLTZEN, Secretary.

BOOK REVIEWS

CHRONIC RHEUMATIC DISEASES. Their Diagnosis and Treatment. By F. G. Thomson, M.A. Cantab, M.D., F.R.C.P. Lond. Physician to the Royal United Hospital, Bath Consulting Physician to the Royal Mineral Water Hospital, Bath, etc., and R. G. Gordon, M.D., D.Sc., M.R.C.P. Edin., Physician to the Royal Mineral Water Hospital, Bath, etc. Oxford University Press, American Branch, 35 W. 32nd Street, New York City, N. Y. Price \$2.75.

The literature devoted to the subject of chronic rheumatic disease is very extensive, representing in a large measure the personal opinion and individual reaction of the authors contributing to the subject. Much is chaff. As a consequence of the abundance of matter any volume which satisfactorily clarifies the essential diagnostic facts and also the differential diagnosis should be gladly received. This volume succeeds in both these points.

The authors have made an effort to include the important diagnostic points in the chronic rheumatic diseases, embracing all the clinical entities associated under the rather comprehensive term "rheumatic."

The development of the individual topics is very complete and the exposition is clear. The classification is adequate and clinically satisfactory. Many essential points in the diagnosis are enumerated while in addition the minor, less frequent, yet nevertheless significant points are not omitted.

The arthritic manifestations of non-rheumatic diseases are discussed at some length. Gout and the more recent ideas on it are given a prominent place. The detail is rather unusual for a volume of this size but nevertheless the authors' method of handling this subject is satisfactory.

An important character of this work and one which enhances its value is the completeness of the discussion of the differential diagnosis of rheumatic diseases. In such a subject where classification is indefinite and uniformity is replaced by a divergence of views, a section on differential diagnosis is a consummation devoutly to be wished for. This phase is very important in the necessary clinical application of the knowledge which we have of the subject.

There is a section devoted to common mistakes in diagnosis which deals with the conditions outside of the "rheumatic field" that may produce symptoms closely simulating those due to rheumatic affections. This is a subphase of differential diagnosis. Static deformities, neoplasms, central nervous system diseases are considered the production of symptoms commonly mistaken for those due to rheumatic diseases.

The section on treatment is very complete, and takes up in order the various recommended procedures with special attention to physiotherapy.

This volume is a decided addition to the literature on the subject and has this to recommend it,—that it can be used as a reference for the practitioner who has little time to plod through the maze of material written on chronic rheumatic disease. A. M.

AN ILLUSTRATED GUIDE TO THE SLIT-LAMP. By T. Harrison Butler, M.A., D.M. (Oxon.) M.R.C.S. (Eng.), L.R.C.P. (Lond.) Surgeon to the Birmingham Eye Hospital, etc. Oxford University Press. American Branch, 35 W. 32nd St., New York City. Price \$9.00.

This work is, as the title indicates, truly a guide to the use of the slit-lamp. The subject matter is

dealt with in a simple manner quite intelligible to the beginner in the use of the lamp and yet going into the subject in considerable detail. It should prove of value to the expert, but will have its especial appeal to the ophthalmologist who is just becoming acquainted with the wonderful, one might almost say new, science of slit-lamp microscopy of the living eye. The illustrations are numerous and quite excellent. Many of them are somewhat diagrammatic, but gain rather than lose in value by this fact. The book begins with a brief description of the Zeiss slit-lamp, but unfortunately it does not indicate the variations that are found in the Bausch and Lomb instrument.

The seven different types of illumination are described and well illustrated. The various structures of the eye are then taken up in the following order: cornea, anterior chamber, iris, pupillary membrane and suspension of the lens, the lens, the retro-lental space, and vitreous. In each instance the normal is first described, followed by the abnormal. Following the chapter on the normal cornea is one devoted to the localization and mensuration of various normal and pathological structures of the eye. The author states that, "We are now able to localize with extreme precision and to make accurate measurements along the optical axis of the eye. This advance is of incalculable value, the most precious gift of the slit-lamp."

There is a chapter dealing with observations following operations and injuries. Another deals with the possibilities of examination of the retina and the deeper structures of the eye by the use of the contact glass and especially arranged microscope. In this connection the author takes up detachment of the retina, intraocular tumors and glaucoma. A final chapter deals with the use of a simple pocket lamp which may be carried about, and with which much valuable information can be obtained. The writer places great stress upon the value of the slit-lamp in the early detection of sympathetic ophthalmia, a function which he places second only to that of mensuration of the eye.

It will be seen from the foregoing that the field is well covered, even though great detail has not been included. The book was not intended as a complete description of all pathological conditions as they appear with the slit-lamp, but rather as a stimulus to the reader to pursue other works, such as Vogt's Atlas and Koby's Handbook, and to give the practitioner an incentive to make use of the lamp and recognize the different conditions which he may meet in his routine work with the instrument.

M. H. P.

DISEASES OF THE SKIN, A Practical Treatise on. For the Use of Students and Practitioners. By Oliver S. Ormsby, M.D., Clinical Professor and Chairman of the Department of Dermatology, Rush Medical College of the University of Chicago, etc. Third edition, thoroughly revised. Illustrated with 521 engravings and 3 colored plates. Lea & Febiger, Philadelphia. 1927. Price \$11.00.

The third edition of this well known standard work on dermatology serves to bring the subject matter well up-to-date. Some thirty new diseases are described and several sections have been rewritten.

The completeness of this book makes it an ideal one for the possessor of a single work on dermatology, as well as for the specialist. It includes a careful review of the dermatological literature. There are sections on general anatomy, physiology, pathology, etiology, treatment, etc., preceding the specific discussion of all diseases of the skin. Radiotherapy

is discussed and cutaneous tests for sensitization described. The work is well illustrated by more than five hundred engravings and three colored plates.

R. L. T.

THE DISEASES OF INFANTS AND CHILDREN. By J. P. Crozer Griffith, M.D., Ph.D., Professor of Pediatrics in the Graduate School of Medicine of the University of Pennsylvania, and A. Graeme Mitchell, M.D., Professor of Pediatrics, College of Medicine, University of Cincinnati. Second Edition, Reset. Two octavo volumes totaling 1715 pages with 461 illustrations, including 20 plates in colors. Philadelphia and London. W. B. Saunders Company, 1927. Cloth, \$20.00 net.

It has been eight years since the first edition of this two volume work appeared. At that time Dr. Griffith had the assistance of Dr. Graeme Mitchell, who now not only has had much to do with the present revision but his name appears as co-author.

This work on pediatrics is as complete as can be made in a treatise of this size. The amount of effort expended upon reviewing the pediatric literature and verifying the citations was tremendous, and I know of no better book for finding references to the original articles on any subject. The bibliography is brought up to date in this new edition and the advances in pediatrics have been included, while many general changes have been made.

This is a first class treatise for the general practitioner, for the specialist, and as a reference book and review of the literature it is highly useful.

F. C. N.

THE TREATMENT OF CHRONIC ARTHRITIS AND RHEUMATISM. By H. Warren Crowe, D.M., B.Ch. (Oxon.), M.R.C.S., L.R.C.P. Oxford University Press. American Branch, 35 W. 32nd St., New York City. Price \$2.75.

This volume while offering a comprehensive exposition of the subject of chronic rheumatic affections is at the same time very succinct. The author has followed the classification suggested by the Rheumatism Committee appointed by the Ministry of Health of England. This classification rather simplifies the entire subject combining both the pathologic and clinical attitudes. Much space is given to the diagnosis of these conditions. The infectious theory of arthritic disease is stressed. Vaccine therapy is dwelt upon at length and the author maintains that failure to secure results with vaccines is due either to the improper administration of the vaccine or to the failure of continuing the treatment for a sufficiently long period.

The chapter on the general principles of vaccine therapy is particularly valuable; the author has added a discussion of sensitization occurring in the course of treatment and the means of combating what is considered a very important factor in the prevention of the proper usage of the vaccine. Stock vaccines of either streptococcus or staphylococcus are given as much credit for effectiveness as auto-genous vaccines.

The orthopedic section of this book contains points of general interest to the orthopedist as well as to the general practitioner.

Many clinical cases are cited in detail and at the end of the volume there is an excellent appendix containing technique for the collection and isolation of cultures.

The style is simple, lucid, effective. The volume should have a definite place in the field of literature pertaining to rheumatic diseases.

A. M.

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR 1926. With comments that have appeared in THE JOURNAL. Cloth. Price \$1.00. Pp. 73. Chicago: American Medical Association, 1927.

Those who are interested in the work of the Council on Pharmacy and Chemistry, and this includes all who have to do with the therapeutic use of drugs, look forward each year to the volume which gives the reasons for the Council's rejection of the preparations found unacceptable for inclusion in New and Nonofficial Remedies. These reasons are given in the Annual Reprint of the Reports of Council on Pharmacy and Chemistry; in addition the book gives the reasons for the omission of certain preparations from New and Nonofficial Remedies during the year, and contains several special reports of a general nature authorized by the Council for publication.

Reports are given on the following articles found not acceptable for New and Nonofficial Remedies: Allonal, Animasa, three benzyl benzoate preparations, Ceanothyn, Cresog, Firma Chloro, Idozan, Malt Nutrine, Murarsenide, Naftalan, Nco-Reargon, Nontox, Numoquin, Oleosolution, "Pabst Extract—The 'Best' Tonic," Phenoseptine Cones and Phenoseptine Powder, Pollen Antigen Spring Type-Lederle, Rad-X-Solution A and Rad-X-Solution B, Robes' Antirheumatic Injection, Sodium Methylarsenate (De Marsico), Ster-Alco, Sulcitacium, Tctradol, Thymo-Borine, Toxivi, Toxok, and Triphos. Besides these there are reports on a number of articles that have been omitted from New and Nonofficial Remedies.

The volume also contains the following special reports of current interest to physicians: a report on the status of bacillus acidophilus and bacillus bulgaricus, therapy, on the basis of which the N. N. R. article on Lactic Acid-Producing Organisms has been revised and rewritten; a report dealing with the esteem in which antistreptococcus serum is now held by leading surgeons, gynecologists and obstetricians, prepared by Dr. Emil Novak on the basis of the answers to a questionnaire sent to representative members of these groups; and a preliminary report on the status of the new drug, Ephedrine.

THE ENLARGED PROSTATE. By Kenneth M. Walker, F.R.C.S., M.A., M.B., B.C., Jacksonian Prizeman and Hunterian Professor, Royal College of Surgeons, 1911, 1922, 1924, etc. Oxford University Press. American Branch, 35 W. 32d St., New York City. Price \$4.00.

In this small volume of 190 pages the author reviews the present position of prostatic surgery in England. The book is divided into thirteen chapters, beginning with anatomy and physiology and ending with mortality and prognosis.

The chapters on symptoms and diagnosis are so clearly and attractively written that one is led to believe that the author himself must be a prostatic for all the symptoms from the commencement of the trouble to final obstruction are so minutely and intimately described. The chapters on general treatment, suprapubic and perineal prostatectomy are written out of a matured experience and with rare good judgment. It is agreeable to note that Goodfellow and Wishard, Belfield and Fuller, C. H. Chetwood, H. H. Young and John R. Caulk, all of the United States, are given due credit for advances made in the treatment of the disease and their work highly praised.

There is an able chapter on the pre-urethral operation in which fulguration, diathermy and other methods of operation in certain cases of prostatic obstruction are carefully described and in which he comments favorably upon the results obtained by H. H. Young with his prostatic punch and J. R. Caulk with his modified cautery punch. He calls attention to the favorable statistics of Young, Caulk and Geraghty in partial prostatectomy and of his own results in twenty eight cases with a diathermy punch of his own devising. His punch is of the Young type but made of Bakerlite. The instrument is introduced with an obturator and when in position the obturator is withdrawn and a telescope lamp and inlet and outlet irrigation tubes substituted, thus converting it into a posterior urethroscope. Under guidance of the eye the instrument is withdrawn until the median bar is engaged in the window. The electric current is then turned on and the coagulation watched until the whole area of obstruction of the prostate is treated.

There is a frankness, sincerity and candor in the book that is very attractive and wins a kindly feeling and friendliness for the author. We cannot praise this work too highly and earnestly recommend it to all surgeons.

A. R.

THE HEALTH OF THE WORKERS. By Sir Thomas Oliver, M.D., D.Sc., LL.D., D.C.L., F.R.C.P. Professor of the Principles and Practice of Medicine, Newcastle-upon-Tyne. Formerly Professor of Physiology, University of Durham. Faber and Gwyer, Ltd. (The Scientific Press.) London. 1925. 226 pp.

The author is one of the highest authorities on industrial hygiene in England, where the first real pioneer work was done on the health hazards in industry. He spent years investigating the cause, prevention, and possible cure of disease of employees who became ill through their employment and has compiled an immense amount of information in keeping with present day knowledge which he gives to us in this little book.

The "panel system" is a form of state medicine which has been in operation in England for years. It made careful scientific investigation necessary and as a result England was the first country to give such information to the world through her scientific men.

This book, while very detailed, is interestingly written and would hold the attention of any layman who might be interested in its subject. It will afford benefit and real enjoyment to medical men in general and deserves a place in the library of those physicians responsible for the health of employees in industrial life.

L. G. H.

DISEASES OF THE NEWBORN. By James Burnet, M.A., M.D., F.R.C.P. (Edin.) Lecturer on Diseases of Children, School of Medicine of The Royal Colleges, Edinburgh, etc., London: Oxford University Press. American Branch, 35 W. 32nd St., New York City. 1927. Price \$1.85.

This is a small volume presenting the subject in a brief but thorough manner, intended especially for the general practitioner. The chapters on anatomy and physiology of the newborn are quite complete. The various diseases and accidents are only briefly described and a few conservative therapeutic measures are indicated. It is a reliable elementary work on diseases of the newborn for the medical student and the general practitioner.

J. Z.

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E. J. GOODWIN, M.D., EDITOR
901 Missouri Building, St. Louis, Mo.

PUBLICATION } T. W. COTTON, M.D., Chairman
COMMITTEE } C. B. FRANCISCO, M.D.
M. A. BLISS, M.D.

ORIGINAL ARTICLES

THE PRACTITIONER OF MEDICINE AND MEDICAL EDUCATION*

FREDERICK C. WAITE, Ph.D.

Professor of Histology and Embryology in
Western Reserve University

CLEVELAND, OHIO

From earliest historical times there have been three learned professions, theology, medicine, and jurisprudence. Many attempts have been made to add to these three and to gain recognition as a learned profession for various vocations, semi-learned or merely artisan, but only one addition is usually accepted, that of education, which has now come to have nearly undisputed rank as a fourth learned profession. Historically, education is but a subdivision of theology and medicine.

Of the three original learned professions one might argue as to which is the most ancient. Theology and medicine are nearly coincident in origin, since in the tribe of savage or semi-civilized man the leadership in religion and in treatment of the sick was resident in a single individual. In some nations, as with the ancient Hebrews, the leadership in law resided in the same individual. This unity of priest and the higher type of physician continued until well into the seventeenth century, and in European universities theological education included medicine. This relation was the basis of American medicine, for many of the better early colonial physicians were also clergymen. Of the first five presidents of Harvard College, chosen primarily as clergymen, three were also graduates in medicine of English universities, and to some extent practitioners of medicine.

This close relation between religion and medicine in barbarism and through a large part of the history of civilization offers an

explanation for two conditions of present day interest. The first is that, until very recent times, medicine is the only vocation or profession that has had a formulated code of ethics. The second vestige of the earlier close relation of medicine and religion is that many religious sects have had a medical tendency, and frequently pseudomedical cults have had a religious penumbra, as well exemplified in our present day Eddyism, usually referred to under the misnomer of Christian Science. Whether it is Christian may be left for theologians to decide, but that it is not science is too evident to require argument.

The history of medicine shows close and constant relation not only with the better factors in human activities as formulated in philosophy, religion, and civilization but also with learning. The source of modern natural science is found in medicine. Through many centuries natural science was kept alive only through the nurturing care of the medical profession. When, in the eleventh and twelfth centuries, the first European universities were founded, they had four faculties, those of theology, of philosophy, of jurisprudence, and of physic, but only in the faculty of physic was natural science taught and hence it came that for several centuries nearly all advance in natural science came from those educated as physicians. This continued until less than a century ago, and in our own country the two great names in natural science, that of Agassiz in zoology and that of Asa Gray in botany, are names of men who were first graduates in medicine and only later became devotees of natural science.

I present these facts to indicate the nobility of the beginnings of the medical profession and as a corollary to such a genesis is the doctrine, old as civilization itself, of *noblesse oblige*, that one noble in origin has obligations which he is bound to observe unless he would voluntarily belie that nobility of origin. Therefore the medical practitioner has definite historical responsibility to

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learning which he cannot escape if he would.

RESPONSIBILITIES OF MODERN CIVILIZATION

Each adult individual in normal mental condition has a series of personal responsibilities. These responsibilities entail certain duties to family; to the local community of which he is a part; to the larger community, the state, of which he is a citizen; and to his country. But ethics are not limited by political or geographical boundaries for each individual has an allegiance to his race of which he is a component unit.

These responsibilities arise either through voluntary contract as in the family, through legal obligation as a part of his citizenship, or through duty inherited from the past.

We each have a debt to the past far greater than we can pay in one short lifetime. All the benefits of civilization, individual and collective, arise from the summation of endeavors and sacrifices of individuals in past time. This individual debt to the past can be discharged in part by similar individual endeavor, sacrifice, and service in the present, and insofar as possible, by contribution by each of us to the welfare of the future. This liability, which pertains to each of us as an adult citizen, is our general responsibility to our time and generation.

GROUP AND PROFESSIONAL RESPONSIBILITIES

When an individual voluntarily associates himself with a group and expects to derive the benefits that accrue to the members of that group, he at the same time must assume his proportional share of the responsibilities of that group. He should not expect to receive much and give nothing in return. Therefore when an individual enters the medical profession, by that very act he obligates himself to render certain services looking to the general welfare of that profession.

The word profession has a meaning that is above the commonplace. A profession, especially one of the few learned professions, is different in its ethical status from a craft, a vocation, or a business. To contrast a vocation or a business with a profession, and to do it tersely is difficult, but it is reasonably fair to say that basically a member of a vocation or of a business expects to be fully paid for his energy and services, to exact a *quid pro quo*, while a profession is based upon less commercial exactness and a member of a profession must expect to give more than he receives. The guiding idea of a profession should be altruism, and the best service rendered in line with the particular qualifications with which the members of that profession are endowed.

Medicine has always been in essence a profession. At times it has reverted to an occupation, and regrettably in individual cases to a mere business, but always in fundamental concepts it has been altruistic.

In Grecian pantheism a legendary medical practitioner was raised to the status of a mythological god, Aesculapius, endowed with attributes of mercy, unselfishness, and wisdom. Thus was the altruism of medicine personified. These attributes were well combined in an individual physician of the fifth century before Christ, and in Hippocrates we have the traditional Father of medicine. The oath ascribed to him is the first code of medical ethics. In one phrase of that oath the novitiate in medicine swears "to teach the art of medicine, without fee or stipulation, by precept, lecture, and every other mode of instruction."

Thus early did medicine, in its ethical procedure, place upon each of its members the duty of medical education, and it is in the fulfillment of this duty that medicine has through the centuries nurtured and promoted learning and science. The duty of teaching is one of the three feet of the tripod upon which medicine rests, the two others being altruism and professional honor. None who enter the profession can escape any one of these three responsibilities.

Through twenty five centuries medicine has adhered to these three cardinal principles, but it is of the educational responsibility of each member of the medical profession that I wish to give especial attention although the two others are no less worthy.

EDUCATIONAL RESPONSIBILITIES OF THE MEDICAL PRACTITIONER

Through many centuries many individual physicians performed their duty of individually teaching students. Because they were teachers, to them was given the title of doctor, a derivative of the latin verb *docere* meaning to teach. Gradually the teaching of medicine by the individual physician to single students was superseded by group teaching. Groups of associated medical teachers instructed groups of medical students, each teacher giving instruction in that part of the field of medicine in which he was especially fitted to teach. These groups of teachers finally gave way to institutional teaching, and schools and universities took over at first only a part but finally nearly all of the duty of instructing and training prospective members of the medical profession.

These groups of teachers, these institutions, are only the agents through and by

which is in part fulfilled that duty of teaching which historically and ethically is incumbent upon the entire profession singly and collectively. Nevertheless, this delegation of the duty of teaching to institutional agents does not relieve the physician of all his individual responsibility as a principal in medical education.

This remaining individual responsibility of the medical practitioner has in part been fulfilled through organized medicine. "Associated action" in medicine in the United States first took definite form nationally in the middle forties, although it arose locally a hundred years earlier, and in each instance the primary stimulus of its origin was the desire to improve medical education. The call for the first national meeting of physicians consisted of four paragraphs. The first was a preamble stating that the formation of a national medical association was feasible. The second and third paragraphs referred to preliminary education and the elevation of the professional educational requirements for the degree of doctor of medicine. The fourth paragraph advised national uniformity in the code of ethics.

The meeting in response to this call was held in Philadelphia in May, 1847, and there and then the American Medical Association was instituted. In that organization meeting regulations in regard to medical education were formulated, and a revised code of professional ethics was adopted. Thus the two major reasons for national organization of medicine in the United States were promotion of medical education and of medical ethics, and to these two subjects were devoted all deliberations in the initial meetings.

The high and altruistic purposes of education and ethics have continued to be the stimulus of the American Medical Association throughout its history, and all the benefits of organized medicine go back to those initial educational and ethical impulses. In May, 1855, Dr. Nathan S. Davis, to whom, more than to any other one man, is due the credit for the national "associated action" in medicine, wrote: "Of all the voluntary social organizations in our country, none is at this time in a position to exert a wider or more permanent influence over the temporal interests of our country than the American Medical Association." Eighty years of its history shows that this association has well and beneficially fulfilled these opportunities.

While through institutions and through medical associations, both of which are agents, a considerable part of the responsibility of the individual practitioner toward

medical education is being fulfilled, there yet remains some individual and personal obligation which cannot be discharged by an agent.

THE PERSONAL INTEREST OF THE PRACTITIONER IN MEDICAL EDUCATION

The discussion of medical education often brings a response from the medical practitioner to the effect that he does not feel himself concerned in the question, or sometimes even that he has no interest in the tendencies or methods of medical education. This point of view is erroneous, for not only is it the duty of the medical practitioner to familiarize himself with and to support medical education, but it is clearly to his own benefit to do so.

The service of the practitioner of medicine to the public is increased in direct proportion to the confidence that he gains. This is true both collectively and individually, i. e. the confidence of the public in the profession and in the individual practitioner is a major factor in the ability of medicine to serve the community and the race. This confidence is inspired by two major influences, namely past performance and future promise.

The public is not careful in its judgment. It is constantly judging a class by its knowledge of, or experience with, a single individual or a few individuals of that class. Public opinion is likely to proceed rapidly from a few particular instances to a broad generalization. Hence a very few unworthy medical practitioners may prove of great injury to the standing of the entire profession in the opinion of the public, and therefore a detriment to each member of that profession. A single ill educated, poorly trained, and incompetent practitioner in a community may soon lessen the reputation of all the members of the medical profession of that vicinity. That such an outcome is unjust does not alter the fact. Therefore it is of direct personal interest to each medical practitioner that recruits to the practicing profession should be of good character, well educated, well trained and competent to practice efficiently.

Since the major part of the education and training of new practitioners must, in the present age, be secured in the medical schools, it follows that every medical practitioner is personally concerned that all medical schools should be worthy and any school that is unworthy should be discontinued, since its continuance is a menace, not only to public welfare, but to the reputation of every member of the medical profession.

Each medical practitioner is concerned in the future of his profession. He knows something of the nobility of its origin, its service throughout the history of civilization, its high purposes and altruism, and the confidence which the public has rightly placed in the profession and in its members. He himself has lived and worked through years, few or many, in this profession. He has seen its advances, he knows from personal experience of its present problems.

A profession is an impersonal aggregation of personalities. The identity, growth and ideals of a profession must be maintained by the summation of the efforts of all of its members, and the quality of service which a profession can and will give depends upon the qualifications of its members. The personnel of a profession is constantly changing. Its members retire or die and are replaced by new recruits. Therefore the quality of the medical profession of the immediate and distant future depends upon the qualifications imparted by training to the new recruits. If these new recruits are to carry on efficiently, if they are to advance the profession yet further, they must be well educated and well trained and the quality of that education and training depends upon the medical schools. Thus every practitioner must be interested in the medical schools of the present, and of the future, by reason of his belief in and devotion to his profession, and further because his own reputation and success indirectly depends upon the repute of the product of those medical schools.

He is not only interested that the medical schools shall be of good quality but that, in addition, their policies should be such that while the science of medicine is well taught their students are at the same time trained in the art of medicine in order that they may, as efficient practitioners, apply the science of medicine and render that service which will promote public welfare. From the standpoint of the practice of medicine the science of medicine is utilitarian, and the task of teaching is but partially done when only the science of medicine is taught. To make this effective it is necessary to teach the application of the science, i. e. the art of using the facts of the science of medicine.

There are two fairly definite parts of modern medicine, closely interrelated, one dependent largely upon the other, but yet the two are enough different so that the distinction should be clearly comprehended by every practitioner. Failure to make this analysis of medicine into its science and its

art has led to great confusion not only in the public mind but as well in the minds of the members of the profession themselves.

THE SCIENCE OF MEDICINE: ITS ORIGIN AND GROWTH

The science of medicine includes that vast body of facts relating to medicine. Many of these facts properly lie in the domain of more basic sciences, such as chemistry, biology, physics, climatology, mineralogy, geology, and other sciences, and insofar as medicine is concerned these facts may be looked upon as applications of parts of these basic sciences to medicine. Of them all biology is the most closely related to medicine.

In addition to the great body of facts in medical science there are theories and hypotheses which aim to bridge the many gaps between the known facts. A few of these have rested upon such unstable foundations and were so tenuous that they cannot be called better than speculations, but the number of these speculations is being diminished in each year in real medicine, although some continue to survive elsewhere and form the basis of various cults, organized and continued on a foundation of speculation rather than upon scientific knowledge.

This mass of knowledge consisting of facts, theories and hypotheses which collectively we call medical science has arisen from so many sources that it is futile to attempt even to group these springs of origin. The components of this mass of knowledge have been accumulated mainly through two methods.

The older method is that of observation and experience. In its elaboration it is called the empirical method. It was the predominant method until less than a century ago. It has certain very serious limitations. The second method is the experimental method and through various extensions it has come to be designated the scientific method. It is much more complex, with more chances of error, but capable of a range and an accuracy which the empirical method cannot give.

In the accumulation of knowledge there are three categories, speculation, observation, and experimentation. Of these speculation is the primitive method more applicable to the unknowable than to the merely unknown. In science speculation is applicable only as a very temporary introduction to be at once followed by more reliable procedures. So called science which relies merely on speculation, as do the cults, can

never rise to the status of real science. A speculation when persisted in leads only to superstition.

The category of observation, by addition of interpretation and deductive reasoning, early developed into what is called the empirical method. In medicine this method through many centuries gave accretions to the accumulated mass of medical science, and secured results far superior to the dogmas arising from speculation, since the conclusions of the empirical method are in large and ever increasing part based upon observed facts. In medicine the empirical method is essentially the careful record of observations in the course of medical practice. In a word its essence is what is called experience.

However, the empirical method is limited by the fact that it must await chance opportunity to solve questions. How fortuitous this method is regarding important questions is well illustrated by the circumstance that a clear understanding of the process of digestion was delayed for more than two thousand years until Beaumont, whose name stands high in Missouri's medical history, had the opportunity to observe the digestive process in the peculiar condition found in St. Martin, recovered from a gunshot wound in the stomach.

Another limitation of the empirical method is that the opportunities for repetition of observations are uncontrollable and may be rare. Deductions from a single observation are by no means conclusive and repetitions are necessary to reduce the average error. Therefore the initial results of the empirical method cannot be highly trustworthy and must be considered provisional until many times confirmed by the same and other observers. Only long series of observations permit dependable conclusions.

Notwithstanding these limitations the empirical method is capable of adding much to medical science if used by men who are accurate in observation and reliable in judgment. Therefore the medical practitioner by record of clinical observations, and especially of series of observations, can increase the science of medicine and thus in some degree discharge one of his professional obligations.

Because of these limitations the empirical method did not fulfill the requirements for exact and complete knowledge in medicine and there arose what was called the experimental method, wherein, by devising experiments, observation could be controlled and repeated. Its beginning was long ago but it was little used in medical science and the

empirical method remained dominant and nearly obscured it. The application of the experimental method to inoculation for smallpox brought it to rather prominent attention but the real stimulus to its use did not come in medical lines until the work of Pasteur, only fifty years ago.

Since Pasteur it has been enlarged and used extensively and the great advance in medical science in the last half century is due to the use of the experimental method, but yet no small part of that advance has been made by the empirical method.

The enlarged experimental method is now called the scientific method. It consists of a definite orderly attack upon the solution of problems by formulation of hypotheses.

The hypothesis includes one or more assumptions which are provisionally adopted for the sole purpose of submitting them to trial. Unless these assumptions can be proven the hypothesis fails. The trial of these assumptions is by observations in experiments devised for the purpose. Following the observations come interpretations and then through reasoning the conclusion is reached. The scientific method is much more complex than the empirical method and therefore offers many more chances of error, but when rigidly controlled and in the hands of well trained men of good judgment the scientific method gives results of a higher degree of reliability than does the empirical method. It is a powerful weapon in the attack upon the unknown, but in the hands of the inexperienced its danger is comparable to placing a loaded automatic revolver in the hands of a child.

Inquiry by the scientific method is known as research, a word which, through misuse and abuse, is rapidly losing any exact meaning. The very etymology of the word indicates repeated trials and observations. The scientific method requires extensive equipment, much material and a personnel that can control their time. Because of these demands research has become very largely restricted to institutions. In medicine these restrictions have segregated most of the research into hospitals, into endowed laboratories, and especially into the medical schools of the universities.

The individual medical practitioner usually has neither the equipment, facilities nor personal leisure to carry on research in medicine by the scientific method. An essential of research is uninterrupted mental leisure for worth while research usually does not permit uncontrolled diversions. This circumstance alone makes it unlikely that the medical practitioner, who must re-

spond to his duty to his patients, can devote himself to the advance of medical science by the scientific method. Yet although the medical practitioner cannot usually engage in scientific research in medicine, his interest in it should be keen, for upon it depends the advance and greater usefulness of his profession.

Since the unanswered questions in medicine are chiefly those that must be answered by the scientific rather than by the empirical method, it follows that by a series of circumstances that could not be foreseen, the advance of medical science has come to be largely a function of institutions, and chiefly of the universities, rather than of individual practitioners, but not entirely so, since the medical practitioner can, by the empirical method, not only add directly to medical science but also put to trial and thus confirm or disprove the conclusions reached by institutional research.

Every one yearns for the broadening of human knowledge. All desire to know the knowable, and many speculate concerning the unknowable. Hence research in all fields of human knowledge has become popular. At times one is tempted to say it has become a fad. The increase of knowledge is basically altruistic. Moreover it is attractive. Discovery whether it be astronomical, geographical, social, historical, or medical is an extremely satisfying thing to accomplish. No one would decry research so long as it is reliable and does not intrude upon other and more important rights of society. Unfortunately at the present day one of the chief urges to research is not the altruistic but the selfish one of publicity. Some would even denote it as an advertising urge to bring to public attention the individual, the society, or the institution under whose auspices the research is done or published.

Into every bit of research enters the chance of error, and of the chances the greatest factor is the personal equation of the one doing the research. This is an unknown variable that is not determinable and because of this factor of the personal equation research often gives results that are fallacious rather than truthful.

If these results of research which are not carefully controlled and supervised are accepted, as is likely to be the case at least for a time, they tend toward misleading conclusions and to confusion, and maybe to retrogression rather than to advance.

The major criticism that may be placed against the popularity of research is that, in judging it, there is usually no account taken

of that variable of the personal equation. Reliable research requires a rare combination of unselfishness, accuracy, correct mental attitude, rationality in deduction, reliable judgment, and general intellectual honesty. Of these features of the personal equation we usually have no record, and can have no accurate record. The only inference we can have of the factor of the personal equation is personal acquaintance and confidence in the maturity, training, and reputability of those concerned in any research.

Inasmuch as the personal equation necessarily is a factor in every research, and since personality is not capable of being absolutely accurate, research cannot be absolutely accurate. While the inaccuracy may be small or large, we have no way of measuring it except by comparison. Accuracy is reached only by many repetitions, and repetition by different individuals, based upon the probability that the several different personal equations will counterbalance one another and, as a final outcome, give a nearly accurate result. Only by an infinite number of repetitions can the personal errors be reduced to zero and an absolutely accurate result ensue.

THE FUNCTIONS OF THE UNIVERSITIES IN REGARD TO MEDICINE

I have indicated why the responsibility for the advance of medical science by the scientific method has been laid upon the universities, and especially upon their medical schools. This responsibility has two definite features. The first is immediate promotion of medical research, by the endeavor to solve the many medical questions that arise at the present time, and what is most important, to reach solutions that are reliable and dependable. This entails meticulous care in every step of a research and mature judgment in interpretation of observations and in deductions from these interpretations to reach conclusions that may be trustworthy. The capability for reliable research is not found in every individual who aspires to publish something.

The second feature regarding research, and the institutional relation to it, is the necessity to train individuals who shall be able in the future to carry on reliable research, for men who are doing research grow old, retire, and die just as well as do medical practitioners.

I have also indicated that by another series of circumstances the responsibility of training men to practice medicine, once the function of the individual physician, has also become segregated into these same universi-

ties and their medical schools. The epoch of the independent and proprietary medical school is gone. Such schools succumbed because they were unable in their teaching to keep up with the advance of medical science, since their teaching staff consisted entirely of men for whom teaching was but an avocation.

Just as the relation of the university to the advance of medical science is two-fold, so also its relation to training men for the practice of medicine is two-fold. The university through its medical school and hospital must not only teach the present day medical students the science and art of medicine, but it must also train men to the profession of teaching the students of the future, who will be ready to replace the present teachers when they shall have finished their task.

We therefore have segregated in the university medical schools of the world these four functions; namely, the training of men to practice medicine, the training of men to teach medicine in the future, the advance of medical science in the present, and the training of men for future medical research in order that medical science shall continue to advance.

There has been a failure, both in discussion and in practice, to analyze the composite duty of the medical schools into these four functions. This has resulted in much confusion. This confusion is not only in the minds of the public but also extends to the profession, and what is yet more potent it is found in the minds of university teachers and university administrators. These four functions, while interrelated, are potentially distinct.

There is difference of opinion as to the relative importance of these four functions, but it is usually acknowledged that the primary and immediate obligation of medical schools is to prepare men to practice medicine.

THE ART OF MEDICINE

The art of medicine is necessarily based upon the science of medicine, but it involves the application of many other subsidiary fields of knowledge such as psychology, sociology, and economics, to name but three.

The art of medicine is primarily the application of the science of medicine to individual and very specific problems. It cannot advance much faster than does the science of medicine, although since the art of medicine involves other fields of human knowledge and experience it is not entirely

limited by medical science. Actually the art of medicine does not advance nearly as rapidly as medical science because the practicing profession does not immediately become conversant with each accretion to medical science. The art of medicine is much more individualistic than is the science of medicine, hence it is more widely variable. While ultimately the public welfare depends upon the science of medicine the contact of the public is directly with the art of medicine, and therefore medicine, which is not analyzed by the public mind into its two constituent parts of science and art, is judged by the public more largely upon its opinion of and experience with the art of medicine as practiced day by day. The public's opinion of medical science tends to be the expectation of omnipotence.¹ This is flattering but often embarrassing to the medical profession, and the science of medicine is practically impotent in the hands of practitioners who lack the art to apply it.

The art of medicine has been developed almost entirely by the empirical method, i. e. by individual experience. The scientific method has been little applied to its development. When the teaching of medicine was individual, consisting in the personal relation of preceptor to student, there was much instruction both by precept and by example in the art of medicine. Indeed it may be said that the preceptor system emphasized the art almost to the exclusion of the science of medicine, then little developed.

When medical schools first originated in this country these were but supplementary to the preceptor system and were not presumed to replace it. The student attended the school for about four months where he received some instruction in the science of medicine and some in the art. He then returned to his preceptor where he continued to learn principally the art of medicine.

About fifty years ago the preceptor system, as a supplement in the teaching in the medical schools, became decadent. At about the same time the marked development in the science of medicine began. The medical schools followed this new trend and taught more and more of the science of medicine. The increase in the length of the medical

1. In a recent instance in Cleveland in September, 1927, there was a claim that in a maternity hospital a recently born infant had been exchanged with the child of another mother. The matter was carried into the civil courts and there was an insistent demand by the press that medical science should determine whether this infant of a few days age is the offspring of a particular couple or not. When medical practitioners and scientists agreed that this is impossible in our present state of knowledge, keen disappointment was expressed by the laity and even extended to disbelief in this decision.

curriculum from sixteen to thirty two weeks per year and from two to three and then to four years was almost entirely a response to the demand for teaching to keep up with the advances in the science of medicine, while instruction in the art was not increased and comparatively became less and less until it almost entirely disappeared from the normal medical curriculum. The title of professor of the practice of medicine, once the major chair in our medical schools, has been gradually disappearing. Then came the practice of service as hospital interns by an ever increasing number of graduates and in this intern service there returned instruction in the art of medicine. The clinical clerk system and the fifth and hospital year, rather recent innovations, in a considerable way is giving men opportunity to learn, empirically, something more of the art of medicine before entering independent practice. Through these agencies the earlier deficiency in instruction in the art of medicine is repaired before the graduate enters practice.

Some now believe that this method of education is not a logical one and that, although there is much incidental instruction in the art in the last two years of the curriculum, there should be some formal instruction in the art of medicine before granting the degree, for advance in the science of medicine is largely futile unless students are taught the art of applying this science.

Some will say that it is not possible to teach the art and that it can only be acquired. The refinements of the art come only through repetition and individual experience but many principles fundamental to this art can be taught, both by exposition and by example, in an orderly way rather than only incidentally. The musician and the painter first are definitely instructed in the foundations of their art and upon this basis acquire proficiency. One hardly expects a musician to be turned loose upon the public who has had no instruction or practice in his art, and the same expectation should apply to the practitioner of medicine.

So the old relative emphasis in teaching upon the science and art has been reversed. Formerly teaching was predominantly of the art with all too meager instruction in the science of medicine. Then followed another emphasis until the teaching of the science almost obscured formal teaching of the art. Now through emphasis upon bedside and hospital teaching again the teaching of the art is becoming prominent. If, as is certainly true, both the science of medicine and the art of

medicine are essentials to adequate medical service, then a recognition of each in the policies of medical education seems desirable.

THE CONCERN OF THE MEDICAL PRACTITIONER IN MISSOURI MEDICAL EDUCATION

It is quite unnecessary to intimate to physicians of the state of Missouri that a few foci of decadent medical education may tend to shatter the public confidence in every individual medical practitioner, on the supposition that the particular individual may be a product of such an inefficient medical school.

Such deleterious influence does not stop here. It extends to the whole community that tolerates such conditions. Not since the career of Jesse James has there been any series of events that, in the mind of the general public, have brought so much disrepute to the State of Missouri as has the continued toleration in this state of three of the six inadequate medical schools of the United States.

The fact that comparatively few of the products of these schools have been admitted to legal practice in Missouri is not sufficient rejoinder. The probability that no more will be admitted to legal practice in Missouri is not an adequate defense against the fact that three such institutions continue to operate in the state under the protection of charters granted by the authorities of this state, and two of these charters granted within the last twelve months.

The fact that after much personal sacrifice by a few altruistic members of the medical profession of this state and the efficient and untiring effort of some state officials the charters of two disreputable institutions, after due legal process, were revoked, gave hope to many outside of the state that Missouri had mended its ways in regard to toleration of low grade medical schools. Then came the almost unbelievable news that officers of the state had granted to the same or related groups of men two new charters to continue operation of medical schools that give promise of being similar to those that every one who reads the public prints knows have dragged medicine and education into the mire. It is quite unnecessary to rehearse the sordid details.

When the scandal of the Missouri diploma mills arose it was possible to plead that the conditions were not completely known to the state officials. No such excuse can be offered for granting of these new charters.

There has recently come a new rift in the cloud. The laws passed by the recent legislature concerning the conduct of inadequate

medical schools and the granting of fraudulent and spurious medical diplomas will, if enforced, stop this evil in Missouri. For the passage of these laws the legislature, the profession and the public of Missouri are to be congratulated. Let us hope that an awakened professional and public opinion will insist on the rigorous enforcement of these laws.

The responsibility of tolerating such institutions is not limited to the state boundary lines. A person who maintains a fetid nuisance in his own back yard intrudes upon the rights of his neighbors, and so a state that tolerates three educational cesspools is neglecting its duty to the other states of the Union and to foreign countries. The reputation of American medicine and of American education suffers in many a foreign country because of these three schools in Missouri and a few other similar disreputable medical institutions in two other states. Thereby every reputable physician and every American citizen suffers. Such institutions therefore become an intrusion upon public decency and public interest.

While we may condemn those authorities that tolerate these public nuisances, what shall be said of those individuals who inaugurate and promote them. Most of these individuals are so called members of the medical profession. They have been admitted to the dignities, privileges and immunities of the degree and title of doctor of medicine. In some cases these degrees are from reputable institutions. By accepting such a title these men have, at least tacitly, obligated themselves to cherish the inheritance of their mother profession of medicine. But instead they have prostituted that mother. What words could sufficiently denounce the individual who would contribute to the prostitution of his natural mother for his own financial profit? No less should be denounced the one who prostitutes his professional mother.

Nearly equally condemnation applies to those who have aided and abetted these exploiters of medical education, whether they be members of the medical or of other professions or laymen, be they public officials or private citizens. Insofar as they call themselves members of the medical profession they should bow their heads in shame before their profession and the world.

THE POWER OF THE MEDICAL PRACTITIONERS IN MEDICAL EDUCATION

If, as I hope, I have shown that the medical practitioner is concerned in medical edu-

cation from so many standpoints as a member of the profession, as a citizen, as a patriot, as a member of the human race, it will be asked how he can have any influence in promoting the efficiency of medical education.

There is no group of individuals that have so great an influence in this question as do the medical practitioners. The betterment of medical education in America was inaugurated eighty years ago by the union of individual practitioners into the American Medical Association, and to this organization and its subordinate branches belongs the chief credit for the advance made since then.

This association is primarily and overwhelmingly one of practitioners. Those members who are connected as teachers with medical schools are an insignificant minority, probably less than five per cent. The practitioners constitute the vast majority that elect the officers who inaugurate and control the policies of the association. The committee of the American Medical Association which intimately cares for the educational policies of the association is in part and should be largely composed of those who are primarily medical practitioners together with some who are primarily medical educators, in order that the experience and conclusions of each group may enter into solution of the medical educational problems and the formulation of policies, the details of which will be delegated to educators to carry out. Therefore each practitioner, however remote he may be in location, has representation in national medical educational policies.

But let us come nearer home. Each medical practitioner is a graduate of some medical school. In most cases he is an alumnus of some school now actively training recruits for the profession. He can have very definite influence on the policies of his own school either individually or in collaboration with the entire body of the alumni. Unfortunately usually alumni associations are dormant. The average alumnus does not know how his alma mater is being conducted, and unfortunately it must be said that he does not seem to care. He rarely visits his school and makes few inquiries or suggestions.

A medical school, or any other kind of school, will heed the opinions of its alumni inasmuch as its existence and opportunity for service depend largely upon the good will of its alumni.

Not only as a member of the medical profession but also as a citizen each practition-

er has an opportunity for influencing medical education. Of the seventy nine medical schools in the United States thirty two are almost entirely supported by public taxation (twenty nine state universities and three municipal universities). Five more have partial state aid. Therefore in nearly half the medical schools of the United States the medical practitioner has a voice in his capacity as a tax payer and can aid in seeing that these institutions receive support to enable them to efficiently train medical practitioners and also promote the advance of medical science.

It is not alone in direct associated action that the medical practitioner has influence in medical education. It is in indirect personal endeavor that a tremendous power resides. In spite of sporadic derelictions of individuals and of small groups in the medical profession, the laity have great confidence in the individual medical practitioner and in the combined medical profession. They criticize and ridicule at times but when we get down to bed rock the public places great dependence and great trust in the medical profession. Yet more intimately and directly does the family and the individual layman have confidence in the particular physician of their choice.

This relation gives the individual medical practitioner opportunity to influence the opinion of the individual layman, and to instruct the individual units of the public in the facts and relations of medical education, and thus cumulatively to influence public opinion. If the facts as to the lack of education of the cultists, rather than the lack of agreement with their peculiar and unfounded speculative doctrines, were impressed upon many individual laymen, there would come insistent public demand for a change. If in this state the medical practitioners would explain to all the individual laymen with whom they come in contact the dangers of toleration of the three low grade medical schools now fostered by state authority there would soon come a public demand for the abatement of this public nuisance.

Medical education touches with a heavy hand every individual personally and intimately, be that individual high or low in the social scale, be he the octogenarian who has already exceeded the allotted span of life or the infant just born into the world or the prospective member of the generation as yet unborn.

Medical education especially concerns and involves every medical practitioner. None such should say he is not interested in medi-

cal education. He is interested, historically, filially, selfishly, altruistically. He is not only interested but he has the greatest power, collectively, of any group in determining the quality and the policy of medical education of the present, of the immediate future, and of the distant future and in proportion to the judicial use of that power will the medical profession of today and of the future benefit, and what is yet more important in like proportion will the prosperity, health and happiness of the race be advanced. The future of the medical profession and of medical education lies in the hands of the medical practitioners. The medical schools are but their agents and must and will heed the composite judgment of the medical practitioners.

School of Medicine Western Reserve University.

MANAGEMENT OF STRABISMUS

LAWRENCE POST, M.D.

ST. LOUIS

The time to treat crossed eyes is when they begin to cross. More poor advice is given on the subject of strabismus than on any other ocular condition.

I should not care to hazard a guess as to the number of times parents have told me that their family physician had advised waiting until the child had reached school age. This is because of a failure to appreciate that after a year or two of deviation little more than a cosmetic result can be obtained and the most important factors, namely, good sight in the affected eye and the development of the fusion faculty, are usually beyond recall by that time.

Another caution: if one does not want to be wrong ninety per cent. of the time, he should not tell the parents that the child will outgrow the trouble without doing anything about it.

Consider for a moment the cause of strabismus in a great majority of cases.

There are two important functions to be acquired by the eyes: first, accurate vision with each eye; second, the ability to use the eyes together. The former is of biologically early development while the latter is late. Under adverse conditions the one acquired late will be the first one discarded. Usually a baby's eyes coordinate uncertainly until about six weeks after birth. At that time if a large bright object is moved before the child the eyes will follow it. Deviations prior to this period, unless constant, are not to be especially regarded.

Later than this a frequently recurring strabismus should be investigated. The pupils

should be dilated with one per cent. homatropin and the eye grounds examined for tumor, choroiditis, congenital cataract, etc., because any factor which interferes with clear vision in one eye will tend to prevent fixation of that eye.

Assuming these factors to be absent, the most frequent cause of deviation is a large error of refraction. The turning sometimes follows an illness, or a severe fall or any cause that reduces the bodily resistance. Often there is an inherited weakness of the eyes, especially of errors of refraction or strabismus. In these cases the subconscious mind of the infant finds so much difficulty in vision that it cannot make the extra effort necessary for coordination and parallelism of the eyes with all the very complex mechanism of concomitant movements. For the reason the effort at fusion is abandoned and the better eye chosen for use. Following this the other eye turns in or out, up or down, depending on the relative strength of its recti. In case the two eyes have approximately equal errors of refraction there probably results an alternating strabismus.

It is at the earliest moment of definite crossing that treatment should be begun, entirely irrespective of the age of the child. If this is not done the crossing eye will not develop its normal functions, just as an unused muscle will fail to develop.

Assuming the crossing to be beginning at some time during the first year, can anything be done? Most assuredly yes. Two courses are open. First, the use of an occluding pad over the fixing or straight eye; second, the instillation of atropin in the fixing eye to blur the images in this eye and thus encourage use of the crossing eye.

In cases of alternation of the fixing eye atropin should be used in each eye. This relieves accommodation and thereby relaxes convergence, as these are associated activities and relaxation of one relaxes the other also. From then on everything is to be done to encourage use of the lazy eye.

As early as the second year a reasonably accurate retinoscopy can be made and glasses prescribed. At this point it is probably best to prescribe the full correction as found under atropin unless this proves to cause so much blurring that the child persistently looks around the lenses in which case the lenses must be reduced to tolerance.

Through this year, if the eye still crosses, atropin in the fixing eye and the daily use of the occlusion pad for not less than two hours should be continued.

Near the end of this year it will be possible to teach the child the names of simple pic-

tures in outlines, such as chairs, balls, stars, etc. Visual acuity can then be determined. If this is now, as it should be by this time, not less than one-third or one-fourth of that in the fixing eye, it is advisable to put such a strong glass on the fixing eye as to fog it equally or more than the crossing eye, thus encouraging the use of the poorer eye. In case the vision is less than this further efforts should be made to increase it, continual occlusion of the fixing eye being sometimes necessary.

The next step is to produce parallelism, if not yet obtained, by use of the amblyoscope, an instrument so constructed that images seen with each eye can be superimposed. After this has been done the barrels of the instrument are then separated or brought nearer together and the child taught to hold the images in position. This requires ocular muscular effort and can be used to stimulate the weaker muscles. As early as possible, exercise for the weak muscle should be instituted, such as the following of an object into the extreme positions for the greatest action of the muscle. For example, if the strabismus is convergent the weak eye is rotated outward as far as possible ten times, twice a day.

Next, fusion is developed by exercise with the stereoscope, depth perception being thus encouraged. Once this fusion faculty is gained there is much less danger of later crossing of the eyes. Fusion is like swimming, once learned never forgotten. But, and here is a very important point, it can almost never be acquired after six years of age. Therefore, it is utterly essential that all these steps should be begun at the earliest possible moment.

The parents who wait until late must be told that probably the eye can be straightened by glasses or by operation, but that they have waited too long for the restoration of good vision in the crossing eye and the development of the very valuable function of depth perception.

In conclusion, start the treatment of strabismus as soon as deviation is noted and you can safely promise much; but wait a few years and you can safely promise nothing.

520 Metropolitan Building.

INJURIES TO THE ABDOMEN*

GENERAL CONSIDERATIONS

O. B. ZEINERT, M.D.
ST. LOUIS

NON-PENETRATING INJURIES

Surgery made necessary by traumatism finds no field of greater importance, where early

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diagnosis and prompt action mean so much for success, than in contusions of the abdomen with injury to the underlying viscera. These injuries result from a great variety of traumata such as blows, kicks, falls, crushes, automobile or railway accidents, and the passage across the trunk of the wheels of a truck or other heavy vehicle. Not infrequently they are associated with other lesions, as fractures of the ribs, pelvis, or of the extremities, head or spinal injuries, the symptoms of which may completely overshadow the abdominal lesion and cause it to be overlooked. In these cases frequently there is no history of an injury to the abdominal wall, no mark of trauma, and no complaint of abdominal pain. In the order of frequency the organs or viscera involved are: intestine (chiefly small bowel), stomach, kidney, liver, spleen, bladder, and pancreas.

It is often impossible to make an exact diagnosis of the injury in the abdomen. The important thing concerning injuries to the abdomen is to be able to decide whether the situation is grave, necessitating immediate surgical intervention, or whether the disturbance is only a temporary one. When an operation is resorted to it is usually of an exploratory nature, since the exact pathological condition is unknown prior to exploration, as a rule. A diagnosis is practically impossible when (a) the patient is put under the influence of morphin; this drug masks the picture by allaying pain, relieving the anxiety, causing rigidity to disappear, lowering the pulse, and abating mental shock. And when (b) shock is present. This does not include shock due to hemorrhage. In such a case of course a diagnosis is more easily made.

Some general rules to remember in connection with abdominal injuries as regards the conduct of the case are:

1. Immediate operation during shock is not to be thought of except in a case of perforation or for the purpose of arresting bleeding.

2. If shock is present and no evidence of hemorrhage can be discovered, cover the patient with blankets and surround him or her with hot water bottles. Administer atropin and saline, the latter either by rectum or by hypodermoclysis. When the patient reacts to this treatment, attempt a diagnosis.

3. Do not use an ice bag before a diagnosis is made. It masks the picture as much as morphin does.

4. Give morphin before the diagnosis is established only when it is necessary to tide the patient over a time of transportation to a hospital. Even then morphin should not be given unless the doctor has decided upon the necessity for operation.

Shock must be combated first of all. Immediate laparotomy has been spoken of as a routine procedure, but if the patient rallies well and quickly, if the character of the pulse and the facial aspect become satisfactory, if there is no increase in the abdominal pain and no distension appears, if flatus and urine are passed—if these conditions are present, what surgeon would insist on opening the abdomen at once? We know that cases of abdominal contusion without serious visceral lesions do occur. These cases recover.

Following a period of one or two hours if the pulse remains feeble and rapid it improves after each subcutaneous injection of saline solution, but speedily weakens again. The patient is restless, anxious. His respiration is labored; his abdomen is becoming distended and rigid; the slightest pressure on any part of its surface is painful. There is dulness in one of the iliac fossae and some degree of resonance in the hepatic region. Neither flatus nor urine has been passed. When such conditions exist, operate at once; do not wait for vomiting or any other symptoms. A very serious operation has to be undertaken, it is true, but in another hour or so it will be more serious because the patient has become more anemic and infection has spread.

Among the signs that indicate the necessity of immediate operation, two are of particular importance. These are (1) permanent and progressively increasing weakness and frequency of the pulse; (2) progressive distention of the abdomen, together with tenderness and rigidity of the abdominal wall.

SPECIAL CONSIDERATIONS

Simple contusion of the abdominal wall without any visceral injuries may involve the skin or muscles or muscle and peritoneum, or all these organs. In severe injury, shock may be marked. Other signs are pain (increased by respiration, motion, pressure, and attempts at urination or defecation) and ecchymosis (which does not depend upon the severity of the contusion). Regard every contusion as serious until proved otherwise. When the muscles rupture shock is usually severe, as is also pain. The separation of fibers can be felt soon after an injury only, for blood effusion masks it. Such injuries have been known to cause death or to lead to hernia. The rectus muscle is the one that is most likely to rupture due to sudden contracture rather than to direct effect. Herniae are temporarily treated with binders and operations performed later unless immediate strangulation is imminent.

Peritoneal rupture may occur even when

there is no visceral injury or muscular contusion. Intra-abdominal hemorrhage is usually present when the peritoneum ruptures. The abdomen must be opened, the hemorrhage arrested and shock combated. Peritonitis may follow at the point of least resistance set up by the point of rupture of the peritoneum. Patients with peritoneal ruptures are likely to die of peritoneal shock, so called peritonism (marked by vomiting, subnormal temperature, cold extremities, pallor, shallow respiration, restlessness, rigidity and distention with violent abdominal pain).

This condition must be differentiated from intra-abdominal hemorrhage and peritonitis. In the latter the vomiting is aggravated, the pain is intensified, and the abdomen grows rigid and distended. In intra-abdominal hemorrhage the vomiting ceases, the patient is very restless, and has great thirst, the hemoglobin falls markedly, and effusion can be made out by physical signs.

Injuries of the omentum and mesentery are rarely found unassociated with other visceral lesions. When they are present, the symptoms are generally those of extensive hemorrhage and peritoneal irritation.

RUPTURE OF VISCERA

Stomach. A violent blow may cause rupture of the stomach the rupture occurring more frequently when the organ is distended than when it is empty. The area most likely to be lacerated is the region of the pylorus. When rupture occurs the usual signs of perforation of the gastro-intestinal tract are present. Vomiting is not a constant symptom but when present is usually bloody. Distention and muscular rigidity come on after a few hours. Peritonitis is the usual complication, especially in perforation of the anterior wall of the stomach. Posterior wall laceration may result in subphrenic abscesses.

The treatment of perforation of the stomach is of course immediate operation. The stomach operation is not as dangerous as the operation for rupture of the intestine because the gastric content is not so infectious as the feces. Petry's statistics show a mortality of 52.3 per cent. in cases of rupture of the stomach.

Intestines. Rupture of the intestines is usually due to direct violence except when it results from such causes as falls on the feet or buttocks, blows on the back or loin, and similar trauma in which cases the violence is usually indirect. Oscillation or compression may cause the same injury, or it may follow contusion of the gut. Rupture is most likely to occur if the abdomen is relaxed and may be com-

plete, extending through all the coats, or incomplete, extending through one or two coats. The extent of visceral injury cannot be estimated by the degree of damage to the abdominal wall. Makins points out that the portion of gut most likely to be injured is the part hanging low in the pelvis because a loop in this situation is most easily squeezed against bone by a blow on the belly. The mesentery is lacerated in about 7 to 16 per cent. of cases.

Peritonitis usually follows intestinal rupture. The vomiting is stercoraceous but blood in the stool, which would be of diagnostic value, rarely occurs. The symptoms of rupture may not appear for an hour or two after an accident; or if they do appear immediately afterward they may not be marked. If the physician is in doubt as to the existence of a perforation after an abdominal injury, and if symptoms point to dangerous hemorrhage and the patient is getting worse, exploration is indicated.

Liver. Rupture of the liver requires great force hence injury of other viscera is usually associated with it. A fall, a blow, or the end of a broken rib may be responsible for the injury. Most often the superior surface suffers. The condition is usually fatal, the mortality being 80 per cent. unless operated upon and operative procedure lowers the percentage of fatality but very little. Markade's series of 543 cases showed a fatality in excess of 50 per cent. in less than twenty four hours. Hemorrhage is severe in wounds of the liver, and peritonitis is a common complication. The signs and symptoms of liver rupture are shock, hemorrhage, pain, distention, rigidity of the upper abdomen, with shifting dullness in the flanks.

Gallbladder and bile ducts. Rupture of the gallbladder and bile ducts is most likely to occur when stones are present. Peritonitis follows such rupture and intense jaundice is a characteristic finding. Treatment consists of suturing the laceration or making a biliary fistula.

Pancreas. The pancreas may be ruptured as a result of blows and usually other organs are involved. Symptoms may not appear for some time, making a diagnosis in the early stage almost impossible. The condition is usually fatal. An injury to the pancreas lacerates the posterior layer of the lesser sac of the peritoneum and peritonitis follows. An operation is imperative although the prognosis is poor.

Spleen. A crush, kick, blow, or fall may rupture the spleen, especially if it is enlarged. The characteristic signs are pain in the lower part of the left side of the thorax and in the left hypochondriac region, and rigidity in the

left hypochondriac region, accompanied by the usual symptoms of intra-abdominal hemorrhage. There is tenderness over the spleen, pain over the heart, and great shortness of breath. In some cases a subphrenic hematoma may form. Hemorrhage is the great danger in ruptured spleen. Operation should be done at once.

Mesenteric arteries. The vessels which are subject to injury are the superior and inferior mesenteric with their branches. If branches of the superior mesentery are divided near the bowel gangrene of the bowel will result. A wound of a branch far removed from the intestine does not, however, cause gangrene because anastomosis will prevent it. The symptoms are those of hemorrhage. Peritonitis may follow the gangrene.

The foregoing is only a brief summary of the traumata of the abdomen. When a patient has sustained a severe abdominal blow the attitude of the surgeon should be, as Moynihan says, "look and see" rather than "wait and see." The surgeon should never wait unless there is convincing evidence that the lesion is a slight one. If there is shock, everything should be done to overcome that condition and the few hours spent in watchful waiting may produce decisive evidence for or against laparotomy.

Pain, tenderness and muscular rigidity are often the only symptoms manifest during the first few hours after the occurrence of an injury, and the appearance of these three symptoms following an abdominal trauma should be a positive indication for exploratory laparotomy. To delay exploration for other characteristic and localized symptoms invites disaster, for resistance decreases with every hour of delay. The patient's only hope of withstanding the added shock of a severe surgical operation is to begin treatment at the earliest possible moment.

618 University Club Building.

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HERNIA IN RELATION TO INDUSTRIAL SURGERY*

H. S. McKAY, M.D.

ST. LOUIS

The Missouri Workmen's Compensation Act recently adopted by the people places many additional obligations upon physicians. None of these is of more vital importance than a thorough understanding of hernia in relation to claims for compensation.

The number of claims made by employees for compensation because of the presence of a hernia is rapidly increasing. Many employees conscientiously believe their hernias resulted from a severe strain during the course of their work, while many others make claims for compensation although they know full well that the hernia had been present for years. With the latter group of course no one has sympathy. In the former group, those who conscientiously believe that their hernia resulted from injury, much confusion exists among laymen, compensation boards, lawyers and even physicians, as to the justness of their claims. In view of this condition I desire to bring to your attention the most recent opinions of authorities who have investigated this subject, together with the views I have personally formed after an experience with hernia cases over a number of years.

One who studies the literature of this subject over the last few years is impressed by the fact that surgeons and compensation boards of many states are attempting to a greater or less extent to standardize the knowledge of industrial hernia with special reference to its etiology. A very instructive article on "Traumatic and Industrial Hernia" appeared in *Annals of Surgery* in 1922 which includes a report of a special committee of the Medical Section of the American Railway Surgeons Association, of which Wm. B. Coley, New York, was chairman. I desire to acknowledge at the outset that I have used the material in this report freely. It is a rather exhaustive study of hernia and contains the opinions of many authorities.

The term "traumatic hernia" appears in the literature quite frequently. It is, however, an injury of such rare occurrence that it can be passed over without any particular discussion at this time. True traumatic hernia as we understand the condition would necessitate the presence of lacerated tissues around the hernial site and hemorrhage into and destruction of contiguous tissues. The writer has never observed

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such a case. Coley states that in the Hospital for the Ruptured and Crippled in New York where 5,000 cases are seen yearly he has never observed a case of true traumatic hernia. Many noted surgeons of large experience in the treatment of hernias state that they have never observed a case of true traumatic hernia.

Practically all cases of hernia that file claims for compensation are of the inguinal variety therefore we shall limit our remarks to that type. The large group coming before compensation boards and courts claiming damages for hernias which they allege occurred as a result of injury during employment could in our opinion be very properly termed occupational hernia. This group furnishes the basis for practically all medico-legal cases of hernia and causes much confusion among compensation boards, lawyers and physicians. Such a large number of operations for inguinal hernia have been performed during the last twenty years that much light has been thrown on the etiology of the condition. Observations made at the operating table, in anatomical laboratories and at autopsies by a large number of surgeons and investigators have shown very clearly that nearly all inguinal hernias are congenital in origin. Practically all these observers believe that a preformed pouch of peritoneum is necessary in order that hernia may occur.

Russell, of Australia, by his extensive and exhaustive investigations caused most surgeons to conclude, as he did, that practically all inguinal hernias are of congenital origin, due to an open pouch of peritoneum which has existed since birth. Russell declares that an acquired hernia does not exist and a great many recognized authorities have come to agree with him. A second factor, most likely of congenital origin, is the presence of weakened structures around the opening through which the hernia develops. It is the experience of most surgeons who operate upon a large number of hernias to find greatly weakened conjoined tendons and very thin muscular structures around the internal ring. In my experience it is exceptional to find strongly developed conjoined tendons during the course of a hernia operation. In arriving at a correct opinion as to the cause of the hernia these facts are of the greatest possible importance.

The report of the special committee on traumatic and industrial hernia pretty well summarizes my opinion in regard to the cause of occupational hernia. The committee states: "Hernia is practically always due, first, to the presence of a preformed sac or open pouch of peritoneum which, in the inguinal variety, follows the testis in its descent into the scrotum,

which pouch has failed to close in the normal way; and second, to the presence of structural weakness in the neighborhood of the hernial orifices due to poorly developed muscles or fascia. Given these all important anatomical causes which are in themselves sufficient in many cases to constitute a potential hernia, the actual hernia may develop by reason of a great variety of exciting causes; among these may be mentioned, the daily increase in intra-abdominal pressure incident to ordinary routine of life, e. g., straining at stool, coughing, sneezing, lifting, etc. The main point that cannot be emphasized too strongly is that the hernia is never the result of a single strain or single increase in intra-abdominal pressure due to any of the causes mentioned; on the other hand, it is the cumulative effect of a great number of strains spread over a considerable period of time. In nearly all cases hernia is of gradual onset, and is rarely accompanied by pain, and most frequently remains unnoticed until it has reached a considerable size or until some accident or strain by slightly increasing the contents of the hernia sac causes it to be noticed for the first time. Hence, the accident or strain is usually the occasion which first attracts the attention to a hernia long present but hitherto undiscovered."

We have always felt that hernia occurred no more frequently among laboring men, or among those engaged in the strenuous occupations and are subjected to great strains than among other classes of individuals. In examining the records of the last one hundred hernia cases admitted to St. Anthony's Hospital, St. Louis, we were very much surprised to find that only thirty were individuals engaged in the so called strenuous occupations. The remaining seventy cases occurred among salesmen, clerks, druggists, students, inspectors, school teachers, physicians, dentists, clerymen and others engaged in similar pursuits. Patients admitted to St. Anthony's Hospital come largely from the so called middle class of people. Perhaps, in general, the laboring class furnishes a greater percentage of patients in this hospital than any other occupation. The hospital is not employed by any large industrial corporation to care for its employees. These statistics would seem to indicate that hernia is pretty well distributed among all the occupations and by no means limited to those engaged in strenuous occupations.

If the all important factor in the cause of hernia is a violent strain or an accident that produces severe tension of the abdominal wall or great intra-abdominal pressure, why is hernia rarely found among athletes, such as foot-

ball players, baseball players, wrestlers, boxers and acrobats? Surely one can hardly conceive an occupation requiring greater muscular effort or strain.

Attempts have been made by several of the state commissions to solve the confusing problem of industrial hernia. The Industrial Commission of Nevada seems to be most in accord with our present knowledge of the causes of hernia and we quote the ruling of this commission:

"Medical science teaches and has taught for the past twenty years that which is now accepted as a medical and scientific fact, corroborated as such by the foremost surgeons and anatomists of the world, that is, that hernia (or so called rupture) is a disease ordinarily developing gradually, and which is very rarely the result of an accident. With the object of treating the subject of hernia justly to both employer and employee, and in accordance with medical and scientific teachings and facts, the Commission rules as follows:

Rule 1. Real traumatic hernia is an injury to the abdominal (belly) wall of sufficient severity to puncture or tear asunder said wall, and permit the exposure or protruding of the abdominal viscera or some part thereof. Such an injury will be compensated as a temporary, total disability, and as a partial, permanent disability depending upon the lessening of the injured individual's earning capacity.

Rule 2. All of the hernias, whenever occurring or discovered, and whatsoever the cause, except as under Rule 1, are considered to be diseases causing incapacitating conditions or permanent, partial disability. But the permanent partial disability and the causes of such are considered to be shown by medical facts to have either existed from birth, to have been years in formation and duration, or both, and are not compensatory except as provided under Rule 3.

Rule 3. All cases, coming under Rule 2, in which it can be conclusively proven (1) that the immediate cause which calls attention to the presence of the hernia, was a sudden effort or severe strain or blow received while in the course of employment; (2) that the descent of the hernia occurred immediately following the cause; (3) that the cause was accompanied, or immediately followed, by severe pain in the hernial region; (4) that the above facts were of such severity that the same were noticed by the claimant and communicated immediately to one or more persons are considered to be aggravations of previous ailments, or diseases, and will be compensated as such for time and loss, and to a limited extent only, depending upon the nature of the proofs submitted and the result of local medical examination."

In Switzerland, according to Coley, a person suffering from hernia and desiring compensation is entitled to indemnity only on the following conditions: (1) It must appear suddenly; (2) it must be accompanied by pain; (3) it must be of recent origin; (4) there must be proof that the hernia did not exist prior to the accident.

Recently there came into my service at St.

Anthony's Hospital a patient who sought no compensation with the following history:

REPORT OF CASE

He stated that twenty four hours previous to his entrance he had fallen from the top step of a step-ladder with a heavy bucket of paint in his arms. He thought at the time that he received no injury whatever. That night while undressing before retiring he noticed a bulging in the left inguinal region, which caused him no pain at that time nor had he suffered any pain at the time of the fall. He stated that he was not aware of the presence of any swelling or bulging prior to the fall. He attributed the hernia solely to this accident. Upon operating the following day the presence of a fairly large thick walled peritoneal sac to which the omentum was adherent was found. There was every evidence of the presence of a long standing hernia with a probable congenital sac. Perhaps this patient could never be convinced that the accident was not the cause of his hernia. We are reasonably certain that a hernia had been present for a long time and that it had never come to his notice prior to the accident. It is probable that the sac with its contents was pushed somewhat further down the canal because of the accident. This case illustrates probably a number of cases coming before surgeons and compensation boards alleging similar accidents as the sole and direct cause of their hernia.

A second case came into our service at St. Anthony's Hospital with the following history: The patient was a foreigner, coming from the Slav countries in the southern part of Europe. He was a brass worker by trade. Some three or four weeks previous to his entrance into the hospital he had found after lifting some heavy object a swelling present in his left groin. He had never noticed any swelling or protrusion in his left groin prior to that time. He claimed that the hernia was solely caused by the lifting of this heavy object.

On examination he was found to have a rather large inguinal hernia coming down well into the scrotum on the left side. At the same time there was noticed a bulging on the right side almost equal in size. He was asked if he had ever noticed any rupture on his right side to which he replied that he had "never had any rupture on the right side at all." At operation a bilateral herniorrhaphy was performed and both hernias showed unmistakable evidence of congenital origin.

In our experience hernias are very frequently bilateral, a fact observed by numerous other surgeons which adds additional strength to the theory of the congenital origin of hernia.

In conclusion it seems to me that all corporations employing large numbers of men should subject their employees to physical examination prior to engaging their services. This would largely eliminate the malingerers and aid compensation bodies in arriving at just conclusions.

Finally, all knowledge pertaining to the etiology of hernia should be brought to the attention of physicians throughout the state. By this means much diversity of opinion with reference to the medico-legal aspect of hernia would be obviated.

University Club Building.

DISCUSSION

DR. H. L. KERR, Crane: An attorney being asked to what he attributed his great success as a trial lawyer said that in arguing cases before a jury he first told them what he was going to tell them, then he made his speech and went into the details of the case, and finally wound up by telling them what he had told them already. In keeping with that theory, I thought I could do no better than to get Dr. Zeinert's excellent paper and reread it to you, but that would not be permissible.

There are just one or two points that I want to emphasize in the Doctor's paper. I shall not attempt to discuss Dr. McKay's paper. In a belly which has recently sustained a nonpenetrating injury, if the pulse is not progressively weakened or progressively growing more rapid, if there is not progressive distention, if the patient is not in grave shock, my idea is to keep out. Give your patient time to recover from the shock unless these symptoms are present. I have found that it is very convenient at times to be able to say, especially in railroad accidents, whether or not the patient died from accident or following surgical interference. If you are on the witness stand it is particularly convenient to be able to make such a statement.

DR. CHARLES H. WALLACE, St. Joseph: I listened to Dr. McKay's paper with a good deal of attention for the subject interests not only the surgeon but the general practitioner, and especially corporations and all people who hire men. I don't know of any subject that has had much more written about it than hernia. I don't know of any surgical condition that offers more satisfactory results than the operation for hernia. It is a constructive and not a destructive operation.

Having been connected with corporations for thirty five years my experience in dealing with hernias has been rather extensive. Like a good many other men, I thought for a time that no hernia could exist unless there had been a congenital defect prior to the injury; that there had been an original defect in the abdominal wall or the hernia could not be produced by injury. My mind was disabused of this by the only case I ever saw that was patently one of traumatic origin. In a terminal yard there was a very irritable, active, small Scotchman who had been there for forty five years in charge of the yard. One day in great excitement when a train was coming down, he attempted to throw a switch to prevent a wreck, and in this strenuous effort he threw the switch but he felt an intense pain on the left side and fell over in a faint. The yard men picked him up, put him in an ambulance and sent him to the hospital immediately. When he arrived there he was in considerable shock and there was a large tumor in the left loin extending down into the scrotum.

A diagnosis was made of hernia that had been probably immediately produced, and as it did not return readily on pressure without an anesthetic, we concluded the proper thing to do was to operate and repair his injury. The operative findings proved conclusively that this old man produced this hernia from this extreme effort. When he was opened, although the belly wall was thin and the rectus was a thin muscle, it was perfect from an anatomical standpoint. In his effort he had ruptured the external oblique and the hernia had come right through the center of it, leaving fibers on either side and with a knuckle of bowel down in his scrotum.

This is the only case I ever saw where I thought

hernia was traumatic without having any anatomical defect further than a thin muscle. We know that thin muscles are sometimes just as strong as some of the heavier muscles if the fibers are of proper anatomical structure. This convinced me that there is probable danger for a man on the witness stand, to say, as I have done, that traumatic hernia is not possible without congenital weakening of the inguinal structures. I think, even though the exception may be exceedingly rare, we should not go quite that far in conditions of this kind. Of course if a man has been run over by a wagon or automobile or something of that sort and the abdominal wall is injured, hernia may be caused by the injury, but then you have general traumatizing of the muscles not limited to an area as in the case where it was pushed directly through the muscle.

I think the general practitioner, the man who finds these hernias in earlier life, is not quite consistent, especially with men who do manual labor, in not insisting upon a repair, because we realize that there is no hazard from operation, whereas every man who wears a truss is in hazard. If he gets far away from an active surgeon he may die from strangulated hernia. The hazard of carrying a hernia, whether with a truss or not, is not one to be lightly considered.

The congenital feature of course is to be considered in the damage cases that follow injury. I remember one opinion in which a judge held that the fact that the man produced a hernia by traumatism by no means relieved the company of liability; that many hernias stay up indefinitely until some strain or a gradual strain produces them; so if a man is in the service of a corporation and the hernia comes down during the course of his work it should not be represented to the jury that there is no liability because the man had a congenital defect before; he should be entitled to damages or indemnity.

I enjoyed the paper very much. I think the opinion is pretty uniform that every man who has a hernia should have it fixed, unless he is a very old man. We who have operated in these cases realize that as a man grows older the hernia gets so it won't be held up by trusses of any kind, and that an old man's life under such circumstances is often intolerable and he should have it repaired.

Recently we have done these under spinal anesthesia and don't give general anesthesia unless the patient expresses a preference for it. We insist on spinal rather than local because sometimes the hernias are infiltrated and break down and the end result cannot be guaranteed as absolutely as they can when spinal is done.

DR. CHENOWETH: Do you remember the conditions of the peritoneum in your Scotchman where you operated for traumatic hernia? Was there a sac or was the peritoneum torn?

DR. WALLACE: The peritoneum was torn.

DR. B. L. MYERS, Kansas City: In order that there may be some expression of opinion on the subject, I should like to inject into this discussion the question of the possibility of traumatic appendicitis. I do not believe the essayist mentioned it. I have had this question brought before me twice within a month. I should like to call attention to the fact that men like Hertzler and Warbasse are on record that it is a possibility. Hertzler says the appendix must lie with a firm background behind it so that it can be easily impinged, and that the appendicitis must develop within forty eight hours after accident. It seems nothing but fair to me that in such instances

there should be definite evidence of trauma to the peritoneum, as suggested in connection with hernia, and also probably of the cecum if not of other viscera.

On the other side of the subject, Howard Kelly and John B. Deaver and Harry Mock have skeptically taken the negative of the subject. With the increasing number of cases that present the possibilities before compensation boards and insurance companies, it seems to me important that we should consider this matter.

I should like to say personally that out of over 10,000 written histories in our files, which have been prepared carefully with written diagnosis, we have no diagnosis of traumatic appendicitis.

I want to mention also in connection with injuries to the viscera from external violence, that we should not delay too long in opening the abdomen. I think my judgment has not always guided me right, from the patient's point of view, in that matter, in the past. If I face it again I think I shall be inclined to open the abdomen early rather than to wait, if there is a doubt.

Recently a patient whose abdomen had been jammed against the steering wheel of an automobile and in whom there did not seem to be great shock, died on the third day after accident. Autopsy showed that the jejunum, not the lower bowel in the pelvis, had given way in two places. He had been traumatized first. The man who conducted the autopsy expressed a definite conviction that there was no rupture of the jejunum at the time of the accident. There was no evidence of peritonitis, or anything else that would lead to that opinion, but on the third day the bowel had given way. If that abdomen had been opened and the perforations found and sutured, I believe the patient could have been saved. And, by the way, injuries to the jejunum have been missed because people lean too heavily on the idea that the bowel would be severed in the pelvic region.

DR. G. S. DOWELL, Braymer: I should like to mention a little experience I had in March. I was called one morning about daylight to see a young fellow about seventeen years old who had been struck in the groin by a baseball on the previous afternoon. The history was that soon after the injury he vomited and was taken home. When I saw him about six o'clock in the morning I thought I had a genuine case of appendicitis before I had gotten any history of an injury.

We took him to the hospital about one o'clock and operated on him and found a perforated appendix with considerable evidence of trauma to the peritoneum. He lived about ten days. If that was not a traumatic appendicitis, what was it? Was he just right to have appendicitis before the injury?

DR. J. R. GREEN, Independence: Dr. Zeinert made the point that you cannot tell the amount of abdominal injury by the external appearance. In that connection, I wish to emphasize the importance of what the gentleman has said in connection with traumatic appendicitis because the violence is usually indirect. Two cases of traumatic appendicitis recently came to my attention, one due to a broad jump and the other due to lifting in a bent over position. I have reviewed some of the older literature on the subject. One article is Deaver's great monograph on appendicitis. As the gentleman has said, Deaver has not in his own experience seen cases of traumatic appendicitis, but Deaver quotes a great many authorities to support the idea of traumatic appendicitis. One of these is Byron Robinson, who did 418

autopsies with reference to settling the question of traumatic appendicitis and the position of the appendix relative to adjacent organs. Robinson concludes that traumatic appendicitis is caused not by external violence, but by indirect violence by the action of the iliopsoas muscle. In that way he thinks many of the appendicitis cases of traumatic origin are caused. Murphy discusses traumatic appendicitis and such men as McEwen and Fowler have supported traumatic appendicitis. Also Boyd's recent book on the side of pathology supports traumatic appendicitis.

It is an advantage to the employer as well as to the man who is injured to have examinations made to determine if he is predisposed to appendicitis because of various attacks. If he has had a history of appendicitis, the man and the employer should know it. This question of traumatic appendicitis is very important from the standpoint of industrial surgery and examinations should be made with reference to appendicitis as well as to hernias

THE WORKMEN'S COMPENSATION ACT OF MISSOURI

WALTER L. SMALL, M.D.

KANSAS CITY, MO.

I have studied the Workmen's Compensation Act of Missouri very carefully that I might give a reasonably intelligent digest of the most pertinent points embodied in this act, which became active January 8, 1927. Until November, 1926, Missouri was one of the six remaining states having no workmen's compensation law. Now we have one of the very best compensation laws in existence.

No doubt the strict application of this law will reveal some imperfections; however, the study of similar laws enacted in other states and a close observation of their undesirable features, as well as their obvious omissions, have made it possible for the authors of our law to profit by the experience of other states. We have as a result a most excellent workmen's compensation act, which will react favorably to all concerned.

It is now seldom necessary or even desirable that an attorney's services be secured to obtain prompt and just settlement in a compensation case. Before the adoption of this act and while we functioned under an act known as the Employer's Liability Law, attorneys frequently functioned as middle men between the employee who had been injured or who alleged he had been injured and the insurance carrier.

To expedite settlements and to assist materially in the execution of this new law it is necessary for the physician and the surgeon to have a reasonably accurate knowledge of the law. It is our duty and our privilege as well to see that the injuries sustained by our patients who are employees to whom the act ap-

plies, shall be promptly and accurately reported on proper forms which are now available.

The compensation committee will be a very busy organization even with all of the intelligent and helpful co-operation which we can give. If we are negligent in reporting our cases, or if our reports are indefinitely and carelessly expressed, an infinite amount of useless work as well as unsatisfactory delays and frequent misunderstandings will result. The law is explicit, almost entirely void of technical legal terms, and can be easily understood by any intelligent layman.

Should you have a case that apparently the act does not adequately cover, I suggest that you write to the Workmen's Compensation Commission, Jefferson City, for additional information, giving all details of facts and conditions as they actually exist. I have reason to believe you will be supplied with whatever help or information you may need.

I shall take this opportunity to urge you to advise earnestly every employer whom you know to institute a plan whereby every employee must submit to a careful physical examination, and to keep an accurate record of these examinations properly filed for immediate reference. This one rule if strictly observed and enforced will do much to facilitate your own work but, what is more important still, it will discourage exaggeration and malingering by unscrupulous employees and prove a most important factor in assisting the compensation commission to make prompt and fair settlements.

A digest of the high points in the Workmen's Compensation Act of Missouri as I understand it follows:

The act is administered by the Workmen's Compensation Commission, comprising three members appointed by the Governor. The Commission elects one of its members as chairman. The term of office of each commissioner is six years, except that when the commission was first constituted one member was appointed for two years, one for four years and one for six years. Each receives a salary of \$4500. At least one member is appointed from each of the two dominant political parties. One must be learned in law, one a representative of employers and one a representative of employees. The Commission may appoint a medical adviser whose salary shall not exceed \$4000. Each commissioner and each person appointed to office by the Commission shall give his whole time to the duties of the Commission. The Commission has offices at Jefferson City, St. Louis and Kansas City.

In addition to all other compensation, the employee shall receive, and the employer shall provide, such medical, surgical, and hospital treatment, including nursing, ambulance and medicines, as may reasonably be required for the first sixty days after the occurrence of the injury or disability, not exceeding in amount \$250; and thereafter such additional similar treatment within one year from the date of the in-

jury as the Commission by special order may determine to be necessary.

The employee may select his own physician or surgeon and a hospital of his own choice but at his own expense. No one but the Commission itself may order the physician or surgeon or hospital changed, and then only upon submission of positive evidence that the employee is inadequately cared for.

The injured employee must submit to an examination from time to time at the request of the employer or the insurance carrier, by whatever physician may be named by the employer or the insurance carrier. Unjustifiable refusal to so submit forfeits all claim to compensation during the period of refusal.

Compensation is payable every two weeks by employer or insurer. The Commission may sue or be sued. From award and decision of the Commission either party may appeal within thirty days to the circuit court.

Compensation is not assignable, is exempt from attachment and is in no way liable for debt unless a lien is authorized by the Commission.

No compensation is paid for the first three days unless disability lasts more than four weeks.

In case of employer's insolvency, compensation is entitled to the same preference and priority as are claims for wages.

Employer must insure with an authorized insurance carrier or satisfy the Commission of his ability to carry his own risk.

Making fraudulent claim for compensation is a misdemeanor punishable by a fine of from \$50 to \$500 or by imprisonment of from one week to one year.

Injury to a minor knowingly employed in violation of the child labor law necessitates the employer or the insurance carrier to increase the compensation 50 per cent.

Fees and charges of physicians and hospitals must be reasonable and are subject to regulation by the Commission in case of dispute.

If employee receives more than \$3600 yearly salary he is not entitled to any compensation.

The act does not apply to a casual employee. A casual employee is one who has not been employed more than 5½ days consecutively.

A major employer is one who has more than ten employees regularly employed. A minor employer is one who has ten or fewer employees regularly employed.

The act applies to all major employers but not to minor employers unless engaged in an occupation especially hazardous to the employees.

The act does not apply to major or to minor employers if that employer is the state, county, municipality, township or school.

Chauffeurs, farm laborers, or domestic servants, cannot claim compensation under this act, nor does it apply to minor employers unless engaged in hazardous occupations.

For partial temporary disability, compensation shall be paid during such disability but not for more than one hundred weeks, and shall be 66 2/3 per cent. of the difference between the average earnings prior to the accident and the amount which the employee will be able to earn during the disability; the amount not to exceed \$20 a week.

For temporary total disability the employer shall pay compensation for not more than 400 weeks during the continuance of such disability, and not less than \$6 nor more than \$20 a week.

For the permanent partial disability, employee shall receive two-thirds of his average wage plus

surgical, medical, and hospital care for from 8 to 232 weeks, depending upon the injury.

For permanent total disability compensation shall be paid on the basis of two-thirds of one weekly wage during 300 weeks, then 25 per cent. of average annual earnings for life, but never less than \$6 nor more than \$20 a week.

Loss of sight of both eyes, or loss of both hands or use thereof, is considered a permanent total disability.

In case of death the employer shall pay funeral expenses of an amount not to exceed \$150, and the expense of the last sickness not to exceed \$250. Also the employer shall pay to the total dependents of the employee an amount equal to two-thirds of the average weekly wage of the employee for the year just preceding the accident, multiplied by 300. The amount so determined shall be the amount of the death benefit.

If deceased employee leaves no dependents the death benefit shall have been concluded upon payment of burial expense and the expense of last sickness.

It is obvious that a death may cost the employer or the insurance carrier a considerably smaller amount than a total permanent injury.

There are 46 permanent partial disabilities (Table 1) named in the workmen's compensation act with the number of weeks to which the employee is entitled to compensation. The maximum amount is for the loss of an arm at the shoulder. For this loss the employee is entitled to compensation for 232 weeks, or \$4640, plus all medical and surgical bills pertaining thereto, provided his weekly wages were \$30 a week or more and not more than \$3600 a year.

TABLE 1. *Partial permanent injuries and weeks injured employee is entitled to compensation*

<i>Injury</i>	<i>Weeks</i>
Loss of major arm at shoulder.....	232
Loss of minor arm at shoulder.....	212
Loss of major arm between shoulder and elbow.....	222
Loss of minor arm between shoulder and elbow.....	200
Loss of major arm at elbow joint.....	210
Loss of minor arm at elbow joint.....	190
Loss of major arm between elbow and wrist.....	200
Loss of minor arm between elbow and wrist.....	180
Loss of major hand at the wrist joint.....	175
Loss of minor hand at the wrist joint.....	160
Loss of thumb of major hand at proximal joint.....	60
Loss of thumb of minor hand at proximal joint.....	55
Loss of thumb of major hand at distal joint.....	45
Loss of thumb of minor hand at distal joint.....	34
Loss of index finger at proximal joint, major hand.....	45
Loss of index finger at proximal joint, minor hand.....	40
Loss of index finger at second joint, major hand.....	35
Loss of index finger at second joint, minor hand.....	30
Loss of index finger at distal joint, major hand.....	30
Loss of index finger at distal joint, minor hand.....	26
Loss of either the middle or ring finger at the proximal joint, major hand.....	35
Loss of either the middle or ring finger at the proximal joint, minor hand.....	30
Loss of either the middle or ring finger at second joint, major hand.....	30
Loss of either the middle or ring finger at second joint, minor hand.....	26
Loss of either the middle or ring finger at the distal joint, major hand.....	26
Loss of either the middle or ring finger at the distal joint, minor hand.....	24
Loss of little finger at proximal joint, major hand.....	22
Loss of little finger at proximal joint, minor hand.....	16
Loss of little finger at second joint, major hand.....	20
Loss of little finger at second joint, minor hand.....	16
Loss of little finger at distal joint, major hand.....	16
Loss of little finger at distal joint, minor hand.....	13

Loss of one leg at the hip joint or so near thereto as to preclude the use of artificial limb.....	207
Loss of one leg at or above the knee, where the stump remains sufficient to permit the use of artificial limb..	160
Loss of one leg at or above ankle and below knee joint..	155
Loss of one foot, in tarsus.....	150
Loss of one foot, in metatarsus.....	110
Loss of great toe of one foot at proximal joint.....	40
Loss of great toe of one foot at distal joint.....	22
Loss of any other toe at proximal joint.....	14
Loss of any other toe at second joint.....	10
Loss of any other toe at distal joint.....	8
Complete loss of one eye.....	118
Complete loss of the sight of one eye.....	108
Complete deafness of both ears.....	168
Complete deafness of one ear, the other being normal..	44

The minimum amount is for the loss of any toe except the great toe, at the distal joint. For this injury the employee will receive compensation for 8 weeks, or \$160, plus all medical and surgical bills pertaining thereto.

For the loss of the sight of one eye he will receive compensation of 108 weeks, or \$2160. For loss of an eye ball, 118 weeks, or \$2360. For loss of hearing, one ear, 44 weeks, or \$880, and for loss of hearing in both ears, 168 weeks, or \$3360.

822 Argyle Bldg.

THE MISSOURI WORKMEN'S COMPENSATION ACT*

J. HENRY CARUTHERS, LL.B.

ST. LOUIS

The Workmen's Compensation Act of Missouri was passed by the General Assembly in 1925 and approved April 30, 1925. It was submitted to a referendum and adopted by the voters at the general election in the fall of 1926. Forty two states have workmen's compensation laws. The benefits to the injured workmen under the Missouri compensation law are said to be the third highest in the United States.

It being a new law in this state and a great departure from the long prevailing system of adjusting settlements and compensation between employers and employees for injuries and death, there is considerable pioneering involved in the administration of the act.

The interpretation of the act is not and cannot yet be fixed and definitely settled in every respect. As time goes on and new conditions arise for solution by the Commission, changes must without doubt be made to meet the situation.

The chief purpose of this legislation was to work out a system whereby compensation may be quickly and adequately made to injured employees and their dependents at the minimum cost of money and time to the injured and at the same time at a minimum cost to the employ-

*Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

er. There are many details involved in the procedure set out in the act. Naturally, where personal injuries, accidents and death are to be dealt with, the services of physicians and surgeons are required.

The principal provisions of the act which hold interest for physicians and surgeons follow:

In addition to all other compensation, the employee shall receive and the employer shall provide such medical, surgical, and hospital treatment, including nursing, ambulance and medicines, as may reasonably be required for the first sixty days after the injury or disability, not exceeding in amount the sum of \$250, and thereafter such additional similar treatment within one year from the date of the injury as the Commission by special order may determine to be necessary. If the employee desires, he shall have the right to select his own physician, surgeon, or other such requirement at his own expense. Where such requirements are furnished by a public hospital or other institution, payment therefor shall be made to the proper authorities.

If it be shown to the Commission that such requirements are being furnished in such manner that there is reasonable ground for believing that the life, health, or recovery of the employee is endangered thereby the Commission may order a change in the physician, surgeon, hospital or other requirement.

All fees and charges shall be fair and reasonable, shall be subject to regulation by the Commission, and shall be limited to such as are fair and reasonable for similar treatment of injured persons of a like standard of living. The Commission shall also have jurisdiction to hear and determine all disputes as to such charges.

No compensation shall be payable for the death or disability of an employee if and in so far as the same may be caused, continued or aggravated by an unreasonable refusal to submit to any medical or surgical treatment or operation, the risk of which is, in the opinion of the Commission, inconsiderable in view of the seriousness of the injury. If the employee dies as a result of an operation made necessary by the injury, such death shall be deemed to be caused by the injury.

The testimony of any physician who treated the employee shall be admissible in evidence in any proceedings for compensation under this act.

Every hospital or other person furnishing the employee with medical aid shall permit its record to be copied by and shall furnish full information to the Commission, the employer, the employee or his dependents and any other party to any proceedings for compensation under this act, and certified copies of such records shall be admissible in evidence in any such proceedings.

Every employer and every other person receiving from the Commission any blank reports with directions to fill out the same shall cause the same to be promptly returned to the Commission properly filled out and signed, so as to answer fully and correctly to the best of his knowledge each question propounded therein, and a good and sufficient reason shall be given for failure to answer any question. Every person who violates any of the provisions of this section or who knowingly makes a false report or statement in writing to the Commission, shall be deemed guilty of misdemeanor, and on conviction

punished by a fine of not less than \$50 or more than \$500 or imprisonment in the county jail of not less than one week nor more than one year, or by both such fine and imprisonment.

Every employer or his agent who in any way discriminates against an employee for exercising his rights under this act shall be deemed guilty of misdemeanor and punished as above set out.

After an employee has received an injury, he shall from time to time during disability submit to reasonable medical examination at the request of the employer, his insurer, or the Commission. The employee may have his own physician present. The Commission may appoint a duly qualified impartial physician to examine the injured employee and to report. His fees and traveling expenses for this are fixed and allowed by the Commission and paid as other costs under this act. The testimony of any physician who examined the injured shall be admissible in evidence in any proceeding for compensation under this act.

Any person who shall conspire with another to make false claim for compensation under this act shall be guilty of a misdemeanor and punished as above set out.

Any person who violates any of the provisions of this act for which a penalty has not been specifically provided, shall be deemed guilty of misdemeanor and punished as above set out.

1810 Boatmen's Bank Bldg.

TRAUMATIC INJURIES OF THE GENITOURINARY SYSTEM*

ROBERT VINYARD, M.D.

ST. LOUIS, MO.

Traumatic injuries of the genitourinary system provide some of the most acute emergencies to be dealt with in industrial surgery. Rupture or laceration of the kidney with severe hemorrhage and fracture of the pelvis with laceration of the bladder or urethra call for prompt surgical intervention. The danger of hemorrhage, extravasation of urine and infection in these cases is well known.

KIDNEY

For practical purposes injuries of the kidney may be considered as open and closed.

The open injuries occur in penetrating wounds, such as gunshot and stab wounds, stone and metallic fragments in explosions. The kidney is injured in seven per cent. of all penetrating abdominal wounds and in one half of these the kidney alone is involved.

The high mortality in open wounds (50 per cent. in some series) is due to penetration of other abdominal organs with resulting peritonitis or severe hemorrhage. The abdominal condition overshadows the kidney situation and in all cases where there is any evidence of injury to the peritoneal cavity or contents, ex-

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ploration of the abdomen should be done and the kidney approached transperitoneally.

The penetrating injuries usually fall into one of three types: (1) Those at or near hilum in which the renal artery or one of its branches may be cut with severe or quickly fatal hemorrhage. (2) Those penetrating the pelvis, after which there is flow of urine from the wound; not usually serious in themselves. (3) Those penetrating the parenchyma with slight hemorrhage or occasionally a bursting effect in gunshot wounds when the kidney may be destroyed.

In closed (or subparietal) cases, laceration of the kidney results from falls, blows or crushing force, (1) directly upon the back or side of body at or near the kidney; (2) indirectly when the same forces are expended on the front of the abdomen and transmitted to the kidney from that point; (3) by muscular effect; this probably only occurs in diseased kidneys (hydronephrosis, pyonephrosis or marked vascular lues).

The bursting effect so often seen in these ruptures is believed to be due to hydraulic pressure transmitted in a very vascular organ, the vessels being filled with blood.

The hemorrhage which always occurs may be intracapsular or perirenal. In the latter case it may be a large amount and form a large retroperitoneal hematoma or flow into the abdominal cavity if the peritoneum be torn.

If the rupture extends into the kidney pelvis the urine may be extravasated but owing to the low pressure in the upper urinary tract this does not have the same seriousness as lower tract extravasation.

Repeated entry or continuous flow of urine into the peritoneal cavity will set up peritonitis. Infection of the hematoma may occur.

Secondary hemorrhage is frequent and often severe due to dislodgement of clots or thrombi and softening due to infection.

The late sequelae are pyonephrosis and perinephritic abscess. Stone formation is frequent in infected cases.

In a series of approximately three thousand injury cases with which I have been in contact during the past six years there were no open wounds of the kidney and but four closed ones. Two were caused by falling from the top of freight cars, one by a blow in the lumbar region by released brake stick and one by fall on ice in an obese subject.

The first three were treated expectantly, i. e., rest in bed, morphine, hemostatics and transfusions, with good results. The fourth case came to operation six months after the accident because of recurrent hematuria. At operation a bursting rupture of the lower pole with a large perirenal hematoma still unabsorbed was found. In all cases hematuria was the first

symptom pointing to kidney injury and was also the most serious.

Diagnosis. In closed cases the diagnosis must be made on (1) hematuria, which is present in 80 to 95 per cent. and usually appears quickly; (2) shock, which is always present; (3) dullness in flank or palpable tumor; (4) X-ray helps in those cases where the ureter is blocked; (5) abdominal pain, distention and muscle spasm where there are complicating intra-abdominal injuries.

Treatment. Palliative in (1) cases with moderate hematuria. Rest in bed, morphine, hemostatics, blood transfusions to combat shock and replace blood lost; (2) where both kidneys are believed to be injured; (3) severe injuries of other parts of the body making operation futile.

Operative treatment for (1) progressive hemorrhage; (2) persistent hematuria; (3) large amount of fluid in peritoneal cavity or definite peritonitis; (4) anuria for more than thirty six hours.

The kidney should be approached transperitoneally in all cases showing signs of intra-abdominal complications; otherwise the lumbar route is preferable. Suture of kidney or partial nephrectomy should be done in those cases suitable for repair. Total nephrectomy if the organ is badly torn or hemorrhage severe. Drainage of the perirenal space for abscess or extravasation of urine.

The mortality in uncomplicated closed cases is 25 per cent.; with complications 66 per cent. (Watson). The two most fatal complications are hemorrhage and infection.

URETER

Injuries of the ureter are rare in civil life, practically being limited to gunshot wounds or severe crushing injuries where the ureter may be torn from the kidney at the pelvis. They may occur during pelvic operations or in using stiff metal ureteral dilators. These should be treated by suture and drainage.

BLADDER

Gunshot or other penetrating wounds of the lower abdomen very frequently injure the bladder. All such cases should be catheterized at once if unable to void and the finding of bloody urine justifies immediate exploration. Antero-posterior compression with or without fracture of the pelvis may injure the bladder or tear the posterior urethra from the triangular ligament. Complete rupture of the bladder is more apt to occur when the bladder is distended. This condition should be recognized promptly and drainage of the bladder and the peritoneal cavity instituted.

Operative treatment is the only logical way of handling a ruptured bladder as less than one half of one per cent. recover spontaneously.

URETHRA

In fractures of the inferior pubic rami injuries of the urethra may occur. Some fragments may penetrate the urethra or it may be torn across. Extravasation of urine occurs quickly and infection follows shortly with great destruction of soft parts and marked sepsis. Diagnosis is usually made on inability to void, inability to pass catheter into the bladder and X-ray showing fracture. Later extravasation of blood and urine is evident.

Treatment. Suprapubic cystostomy should be done with retrograde catheterization. Retention catheter is left in and perineal urethrotomy done for drainage of extravasation. Suture of torn urethra is usually not feasible on account of edema and infection.

In the series mentioned above there were twelve fractures of the pelvis, one bladder laceration and one lacerated urethra. One gunshot wound penetrated the bladder.

It might be well at this point to mention the care of the bladder in spinal injuries. Retention occurs and the question of catheterizing or not arises. We should keep in mind the fact that eighty per cent. of spinal fractures die of urinary infection.

PENIS

Dislocation of penis may occur when the suspensory ligament is torn. The organ should be replaced and suspensory ligament repaired by suture at appropriate time. Laceration or so called "fracture of penis" in which the corpus spongiosum is opened may occur. There is severe hemorrhage, formation of large hematoma, followed by marked deformity. Avulsion of the skin of the penis occurs in industrial accidents. The skin of the scrotum has been used for graft.

SCROTUM

Injuries of the scrotum are usually accompanied by extravasation of blood and edema. The scrotum may be invaded by extravasated urine when the urethra is lacerated with marked sloughing and loss of tissue. Ample dependent drainage is a good rule to follow in treating injuries of the scrotum.

Blows, kicks or crushing injuries may dislocate the testes into the inguinal canal, the abdominal wall or under the skin of the thigh. They should be replaced or removed if badly injured.

Contusion of the testes requires rest and support; if infection occurs, incise.

In stab wounds drainage is usually sufficient unless infected.

Gangrene follows torsion or severing of the spermatic cord.

Conservatism should be our guide in treating injuries of the genital organs. Nothing should be sacrificed that might be saved. The loss of one or both testes in an industrial accident is considered a very expensive complication by the claim department.

SUMMARY

Uncomplicated kidney injuries should be treated expectantly.

The mortality in uncomplicated cases is 25 per cent. with abdominal complications 66 per cent.

The kidney should be approached transperitoneally when the abdominal cavity is penetrated or the contents injured.

Early operation should be done for rupture of the bladder as less than one half of one per cent. recover spontaneously.

Early operation should be done for laceration of the urethra because of damage by extravasated urine.

Conservatism should be our guide in treatment of injuries of genital organs.

Wall Building.

DISCUSSION

DR. W. J. WILLS, Springfield: I don't see how we could have a more comprehensive and full disclosure of these injuries than Dr. Vinyard has given us. The only thing I can do is to give a few cases or exploit something pertaining to compensation.

Injuries to the kidneys are those treated expectantly and usually recognized by hemorrhage and hematuria. That is practically the first thing that you should do in cases of injury or pain over a kidney due to trauma and in case of shock. Finding blood in the urine usually necessitates catheterizing the patient, because an injured kidney causes spasm of the bladder and the bladder is paralyzed temporarily and retention results.

Of course, the patient is kept perfectly quiet. I believe on account of other foci of infection that makes possible an infection of weaker or injured tissues, urinary antiseptics should be given. If blood clots form, probably diuretics should be given.

I have seen three or four cases of basket ball players recently who were struck when they were jumping in the air; one fell against a stairway with resultant hematuria. I did not recognize, in seeing him early, that there was much shock, as you would expect to find. In these cases they complain of the pain radiating down into the leg, and when they are catheterized and hematuria is found, the condition is diagnosed. The most shock came after the blood clots began to form, and from a contusion probably of the ureter and retention of the kidney a Dietl crisis resulted; then came the shock that we would find in passing a renal stone, with the accompanying symptoms of shock. These necessitated morphin. In each of the four or five cases that I saw the hemorrhage did not stop for two or

three weeks. Even two weeks afterwards it was necessary to give morphin on account of the Dietl crisis resulting probably from the flocculence of blood.

An elderly man came to me with marked hematuria complaining of an injury some five years previous. The strange part of it was that the complaint was getting more severe. He said that he had been lifting a weight and he was crushed down by the release of the weight by a fellow-employee. Two or three days after that the hematuria began. In this case we did a pyelogram and I found a strictured ureter. The strange part of it was that he did not have a recurrence of hemorrhage or even of pain for nearly six months afterward. I think the resultant hydronephrosis, the jar, the pressure on a large dilated pelvis makes it a dangerous condition.

Because of the fact that there are so many cases of infected pelvis, pyelitis, light injuries over the kidney, resulting in the acute lighting up of conditions, as fever, or excessive pain, probably a pyelogram should be made in each of those cases, not only for the protection of the employer but for the protection of the patient's future health.

The Doctor has written well on injuries of the bladder. I don't remember his mentioning the fact that there could be intraperitoneal and extraperitoneal rupture, which gives a different picture and practically a different condition of the surgical care. All those cases are immediately surgical and when the condition is recognized, perhaps by anuria, or the urine is accumulating in the peritoneal cavity instead of the bladder, and the patient is catheterized and the bladder found empty, you can count on that being a ruptured bladder.

I think the most interesting of this series are the injuries to the kidney. They are not so thoroughly exploited. The general surgeon sees the injuries which involve other organs. The genito-urinary man seldom sees the earlier severe cases of injury to the kidney because of their immediate necessity for surgical interference. It is the after effect when we have pyelitis and ureteral stricture that necessitates a rather peculiar nature of study both for the benefit of the employer and the patient himself.

DR. H. McCLURE YOUNG, St. Louis: There are just a few points that I should like to discuss in Dr. Vinyard's paper. The first is in regard to hemorrhage after an injury to the kidney. We have got to remember just what may be the condition giving rise to hemorrhage. If the ureter, for example, is torn clear across from a gunshot wound, you may have no blood in the urine at all and still you may have a very severe injury. If the injury is from a bruise to the kidney region, you may have a subcapsular hemorrhage without any actual laceration that goes into the pelvis of the kidney. In that case you may have a very serious condition with little blood in the urine. We are inclined to put too much stress on the amount of the hematuria, which is not a real index to the seriousness of the injury.

When a patient is first brought to the hospital with a suspicion of kidney injury, one of the first things we do is to catheterize. Right there a point should be emphasized, I think. As soon as the patient is injured he probably assumes the dorsal position. He is in some shock; he may not have any desire to void; he may have had considerable urine in his bladder at the time of the injury. Lying in the dorsal position, a little bloody urine coming down will settle to the floor of the bladder. I have seen it happen that the patient catheterized in the dorsal position at the hospital gave first urine

that looked perfectly clear. We should always be careful to draw the last drop of urine out of that man's bladder. It may look perfectly clear up to the last ounce or two, and then you get a bloody urine. We must be careful to the last about that point.

As for the abdominal route, I think Dr. Vinyard is unquestionably right. The proportion of cases, especially a gunshot wound, involving abdominal viscera as well as the kidney is great. If you have bloody urine and a wound in the kidney region, you know that you have a kidney injury, and if you assume that that is all and go in through the loin, you will miss something in the abdomen in a certain proportion of cases. I have seen that happen in a case where the patient was very carefully gone over by consultants, internists and surgeons, and it was felt that this particular patient had no abdominal injury. The upper pole of the kidney, about a third of the kidney, had been blown off; he was bleeding quite profusely. That portion of the kidney was taken out and sewed up, all hemorrhage stopped, and things looked pretty well. Up to that time the patient did not seem to show any more shock than one might expect from such an injury, but he did not rally from the operation. An autopsy about forty eight hours later showed that he had a perforated wound of an abdominal viscus, I forget whether of the stomach or the colon.

If we should miss an injury to the kidney, after all it probably would not be so disastrous as to overlook a perforating injury to the stomach or the colon. Undoubtedly, if we know certainly that there is no abdominal injury we ought to take the route through the loin because the shock is less.

Hugh Young in his book on war surgery says that we ought to cut down on the kidney first, and then if we find reason to suspect anything wrong in the abdomen the patient should be turned over and the abdomen explored. He recommends that because he says if you first do a laparotomy and find nothing and then turn your patient over to operate on his kidney through the loin, the resulting shock is excessive. That I don't know, I have not tried it. That is his opinion after observation of a considerable number of cases.

There is one more warning that I think we should always bear in mind, and that concerns injury to the lower urinary tract, especially where there is injury to the urethra. I think considerable damage can be done by trying to catheterize these patients. If there is a bad injury to the perineum and you have every reason to believe that the urethra has been badly injured, you are certainly taking less chances if you open the bladder at once. Your attempts at catheterization will spread infection and attempts at urination on the part of the patient will spread infection. If you can get his bladder open before he so much as attempts to pass any water you will save him from the danger of extravasation and the danger of excessive scar tissue with a stricture difficult to deal with. I think we ought to hold off for just long enough to consider pretty carefully that if we know we are going to have to do a suprapubic cystostomy on the man we had better do it right away before we have done him any more damage than his injury has already caused.

DR. ROBERT VINYARD, St. Louis, in closing: Dr. Wills brought up one thing that I left out of my paper—among quite a few other things—and that is the question of pyelograms and cystoscopies in injury cases. I think if you have time, if the patient is not too ill, you should do a cystoscopy to get mainly a functional test on your uninjured kidney. It is a very good thing for the surgeon to

know when he goes in whether he has a good kidney on the other side; he feels better about it if he has to do a nephrectomy before he is finished.

Dr. H. Mc. Young in quoting Dr. Hugh Young failed to mention that his instructions about operating were issued as an army order to surgeons in clearing stations, certainly not under favorable circumstances. His instructions were that if you were in doubt as to an abdominal injury, open the patient in the back. Of course things were a lot different in the army than in civil practice.

I think the question about blood coming from the kidney and blood from the bladder cannot be easily determined without cystoscopy. I don't know any way to differentiate that, as it is thoroughly mixed with urine in both instances. Encysted stones usually do not give rise to hematuria.

MOVABLE CECUM AND ASCENDING COLON IN RELATION TO RIGHT-SIDED PAIN*

ALBERT COUGHLIN, M.D.

ST. LOUIS

In making a study of the records of the cases operated upon for chronic appendicitis at Saint Mary's Hospital, St. Louis, it was found that of those answering the follow-up letters only forty five per cent. were relieved after one year. These patients were operated upon by reputable surgeons and do not represent the work of any one man. Furthermore, microscopic examination of the specimens removed have failed to show adequate cause for their symptoms.

Wilms, of Germany, in the beginning of the 20th century, probably because of similar disappointment, turned his attention to the movable cecum and reported 40 cases in 1908 in which he immobilized movable cecums for the relief of symptoms similar to those of chronic appendicitis. He expressed the belief that symptoms in many cases of so called chronic appendicitis were due to abnormal mobility of the ascending colon and cecum. Waugh,¹ of London, in 1920, operated upon 180 cases in which he immobilized a movable ascending colon and cecum; 68 of these had previously been operated upon for appendicitis. He states that in only a very few of the younger cases with a comparatively short history of illness have the results been poor.

E. P. Quain² states that chronic appendicitis is an infrequent disease and that such diagnosis should be restricted to those comparatively few cases in which there is a chronic lesion of the appendix. He has operated upon 70 cases of movable colons, fixing them directly to the muscles of the back; of 52 that answered a follow-up let-

ter, 34 were entirely free from symptoms after a lapse of three months or more. He regards this method of treating movable colon as giving better results than simple removal of the appendix. He also states that not all cases of movable colon and cecums give symptoms. His associate, V. J. Rose, made a fluoroscopic study of 25 undergraduate nurses who had normal gastro-intestinal function and found that more than half of them had a movable ascending colon. He classified the symptoms of this condition under three groups; pain, constipation and intoxication.

Pain is of two types; that produced in the immediate vicinity of the colon and that produced by dragging on the other organs. The first is the chronic discomfort on the right side of the abdomen. It may be constant or periodic, aggravated by standing, heavy work or intestinal distention. It is relieved by rest and lying down. The local pain often comes on acutely in attacks and may be associated with rigidity of abdominal muscles. Attacks are never severe and pass away gradually. There is no elevation of temperature nor is there a leucocytosis.

John Morley,³ of Manchester, England, states that the ideal way of treating a movable ascending colon is to fix it in the right loin by the method of Waugh, which is similar to the method that I shall describe.

Coffee states: "I am convinced that over half of the patients complaining with right-sided pain have no definite organic disease, but have defective fixation of the ascending colon."

Let us consider briefly the anatomy and embryology of the movable cecum and ascending colon. In early uterine life the small and large intestines are attached to the dorsal abdominal wall by a common mesentery. Further development consists very largely of the formation of loops and coils, the abdominal cavity at the same time enlarging to accommodate the increase in bulk. After returning to the abdomen, the cecum is carried across to the right side and comes to lie just caudal to the liver. From the cecum the colon extends across the abdominal cavity ventral to the duodenum and forms the transverse colon; it then descends on the left side as the descending colon which passes over into the sigmoid. The transverse, descending and sigmoid portions are recognizable as early as the third month. After the fourth month the cecum with its mesentery migrates downward on the right side of the abdomen, thus forming the ascending colon. This process

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

of migration may be arrested at any point. After the ascending colon is formed the mesocolon usually fuses with the peritoneum of the posterior abdominal wall; however Bailey, Professor of Embryology, Columbia University, and Miller, Professor of Anatomy, College Hospital, Long Island, believe that such fusion is absent in 25 per cent. of individuals. In examining 100 bodies in the anatomical laboratory I found ascending colon with definite mesentery in 22 per cent.

Now it is easy to see that since the hepatic flexure is a more or less fixed point, a long mesentery permits the colon and cecum to swing laterally and rotate on the long axis and is probable that when this occurs there is interference with peristalsis and circulation. A kink in the colon may be produced causing temporary obstruction and a sharp pain. These repeated attacks lead to chronic inflammation and to the development of a membrane, which was first described by Jabez Jackson. There is no doubt at all that this membrane exists. However in a study of 47 cases at the operating table I have never seen such a membrane except in those where the ascending colon and cecum were provided with a long mesentery. I have no doubt that this membrane may be so well developed as to further interfere with the function of the colon. A large number of these cases have been reported in which the removal of this membrane has been followed by long continued relief. The following is a resume of a fairly typical history.

REPORT OF CASE

Miss T. R., age 26. Entered the hospital June 4, 1925, and left the hospital June 14, 1925. Chief complaint, diffuse pain throughout the abdomen, but more marked on the right side. She described the pain as dull, sometimes sticking in character, coming on one hour after meals accompanied by nausea and belching. The pain began two years previously and increased in severity up to the time of operation. No urinary symptoms. Bowels moved every other day.

Physical examination. Somewhat undernourished, anemic appearing girl, 5 feet 4 inches in height, weighing 104 pounds. Head and chest negative. Abdomen, asthenic type. Tenderness in the right side but more marked at McBurney's point.

X-ray examination. No pathology revealed in the upper alimentary tract. The 24 hour examination of the colon revealed a freely movable cecum and ascending colon.

Diagnosis. Movable cecum and ascending colon.

At operation the X-ray diagnosis was confirmed with no signs of inflammation about the appendix. All other organs negative. The appendix was removed and the cecum and ascending colon were treated in the manner which I shall describe later.

The follow-up letter in this case reveals that after two years the patient has none of the symp-

toms that she had before operation. She feels well, can eat anything and has gained 15 pounds in weight.

The symptoms that most of these patients complain of resemble those of our classic conception of chronic appendicitis; or they may be referred toward the epigastrium and be mistaken for gastric, duodenal or biliary disease.

A right rectus incision is made, about 4 inches long, opposite the umbilicus. The muscle is pulled inward, the nerves and blood vessels upward and downward. The abdomen is opened and the appendix removed, if present; the cecum and colon are picked up by the assistant operator and pulled toward the midline. An incision is made in the posterior peritoneum close to the root of the mesentery extending from the iliac fossa upward to the right hepatic flexure. The loose areolar tissue is cleared away from the psoas muscle. Four sutures of No. 20 catgut are placed in the fascia over this muscle, care being taken not to include the nerves or the ureter. The latter usually lifts with the inner leaflet of the peritoneum. The sutures are carried through the peritoneum and root of the mesentery up to the edge of the colon. The other end of the suture is placed through the lateral leaflet of the peritoneum. All sutures are now tied, thus fixing the colon and cecum back to the fascia of the psoas muscle. The abdomen is closed in the usual manner.

2601 Washington Avenue.

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DISCUSSION

DR. FRANK G. NIFONG, Columbia: There is really a movable cecum and ascending colon, as I have observed myself. I am not sure how much symptoms they produce not having been able to determine that point. On every occasion where I think the colon is freely movable and I can bring out the cecum and hold it up, I attempt to fix it in its fossa. On one occasion I even had a cecum that was so movable that it had twisted on itself and made an obstructive ileus. When it was brought out it could be easily seen how it was folded over. At least that is my conception of what happened. That was two years ago. Of course the appendix was removed but the cecum was fixed and there were no more symptoms.

I have seen a number of people who do have pain and chronic appendicitis. Whether we operate on their psychology or not I don't know, but it does seem to help them.

DR. TINSLEY BROWN, Hamilton: I saw one case a few years ago and I have never seen its like, and I know of no one who has reported one like it.

It was a case of a young lady twenty six or twenty seven years old who had had a great deal of trouble with her right side. We thought she had chronic appendicitis. She was operated on in Kansas City by an eminent surgeon and it was found that she did not have appendicitis; she had a small appendix, but she had a dilated cecum. She died about a week afterward with gangrene of the cecum.

The supposition is that the artery that supplied the appendix supplied the colon. I never was so surprised in my life. Postmortem showed gangrene of the cecum. I have never found anybody who knew a case like that. I give it for what it is worth.

DR. LAWRENCE P. ENGEL, Kansas City: I should like to ask Dr. Coughlin what the age and sex incidence is in his series of cases. I think it is probably the observation of most of us that this symptom complex is most common in young women usually in the twenties. I was wondering if that is his experience.

DR. W. F. HOLBROOK, Kansas City: I believe that movable cecum does not give definite, well defined symptoms. I think they classify themselves, so far as symptoms are concerned and so far as trouble that they give is concerned, as a true colitis. Fluoroscopically you have infection for some time afterward.

I do not believe, as Dr. Neilson intimated, that operative interference on any dilated or ptotic portion of the gastrointestinal region is a good thing because in that individual it is easy to pick out. They are neurotics, which I think is an ill-selected word as they are properly food poisoning cases.

In my experience, those cases are best corrected in a dietary way. I find that particularly fats and starches are the things which offend.

We make a great many dilated cecums by trying to relieve bands of adhesions. You bring about your distortion and you bring about mobility because of gas distention and because of the size. It comes in contact with the surrounding structures and moves itself and rolls around. If that individual can be put on a fat-free diet, and if you can consider that the particular territory is no stronger than the resistance of the entire body, then you get good results with a fat-free and reasonably starch-free diet.

I still am a believer in the oil enemas. In those cases one thing certainly does happen, and that is the churning back and forth of the raw linseed oil gives a tone to the musculature which ultimately will give results, but at the same time we are overlooking, in gastrointestinal work, one point which gives bad cecum and bad colons, and that is our little bit of irritation at the anal ring. If there is irritation at the anal ring and these people do not have the desire to evacuate, then you can expect dilatation and you can expect food absorption that is adverse any place along that tract.

Except in cases such as Dr. Nifong mentioned where he found a case which had mechanically twisted itself and there was a tortuous channel, I think those cases should be left alone strictly, with diet and general regimen to bring the individual back, because a thing which we must remember in gastrointestinal work is that a local area can be no stronger than the rest of the body.

DR. W. T. COUGHLIN, St. Louis: I suppose every person who begins to do surgery goes through what I call the chronic appendicitis stage. If he keeps a follow-up account of his patients, he begins to find out that his operations for chronic appendicitis are not quite so successful as he would like

them to be. When Dr. Jackson called attention to the occurrence of the veil over the cecum and the ascending colon, I thought probably here was the solution of the problem.

It is a fact, as Dr. Neilson says, that a lot of patients on whom we operate are benefited perhaps by the psychic effect, but there are a lot of those on whom we operate, removing the appendix and removing the veil cutting the membrane, who are benefited.

I heard a good deal about the mobility of the ascending colon and the cecum and became familiar with Quain and his work. I think that the best way to do this is to go at it with the spirit of investigation.

The number of people who come with right-sided abdominal pain is so great and the absence of pathology so frequent that Dr. Mayo has referred to the condition as chronic right-siditis. There isn't any pathology, apparently, sufficient to cause the symptoms complained of.

Their system at St. Mary's Hospital (St. Louis University Hospital) of following up has brought a lot of things to our notice that would not have been observed otherwise. First, we have a system of examination of all the specimens removed and a system of reading the histories, and on going over these histories it was a striking fact that practically all cases of chronic appendicitis showed very little the matter with the appendix. These operations are done by all the surgeons that come to the hospital, and we felt a little alarmed lest we might be accused of having unnecessary operations, because the appendix showed no pathology. For my own part I thought we might give this some investigation. I think that the membrane first described by Dr. Jackson, which really exists, is a pathologic thing; I have never noticed it except when there was a long mesocolon or ascending colon. It may exist otherwise, but that has been my observation since I began to look at it particularly.

At the present time there is a patient in the hospital who has had an operation for appendicitis, but whose appendix was not inflamed and whose cecum was inflamed, so evident that it was easily demonstrable; there was a sort of subacute inflammation of the ascending colon and cecum.

In going over our records with our follow-up system, we find that in those patients from whom we remove the appendix only we do not get as good reports as the patients from whom we remove the appendix and also fix back the colon, and we always cut these bands described by Dr. Jackson when we find them.

I don't know what is right in the matter, but I believe if we all go to work in the proper spirit the truth will finally come out of it.

AN INTERRUPTED CONTINUOUS SUTURE*

EDWIN P. LEHMAN, M.D.

ST. LOUIS

The breaking, at any point in its course, of a continuous suture placed in the sheath of the rectus abdominis muscle before union of the wound has occurred, jeopardizes the result of a laparotomy. For that reason many operators prefer interrupted mattress sutures for

*From the Department of Surgery, Washington University School of Medicine, and Barnes Hospital.

this important layer, in spite of the added time necessary to place and tie them and the waste of suture material incident to cutting the ends. The giving way of one of these su-

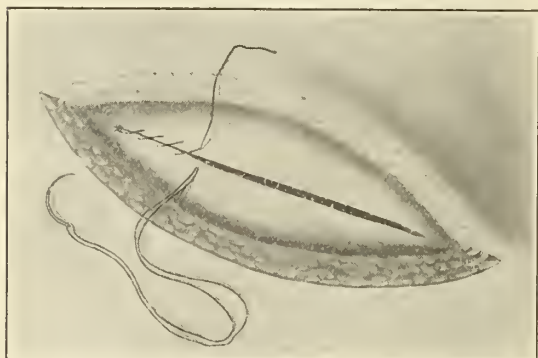


Fig. 1

tures weakens only that short length of the wound between the adjoining sutures on each side.

I have found useful a suture that combines some of the advantages of both the continuous and the interrupted stitch.

A long, single piece of hardened catgut is prepared, placed and tied at one end of the wound in the usual way. It is then carried down the wound as a simple continuous over-and-over suture until three or four stitches have been taken. On the last of these the end passing through the needle eye is not completely withdrawn from the wound, but a short portion is allowed to project beyond the last wound of entrance (Fig. 1). This end is then tied with the double loop on the opposite side of the wound as in the usual method of completing a continuous suture. All three strands, however, are not cut. The assistant separates the two strands coming from the needle and places one of these beside the short



Fig. 2

free end, both under tension (Fig. 2). These two strands are then cut, leaving a single strand projecting from the knot and threaded on the needle. The continuous suture is again begun with this strand (Fig. 3), passed three or four times, and tied. Two of the three resulting strands are again cut. This process may be repeated any number of times, depending on the length of the wound.

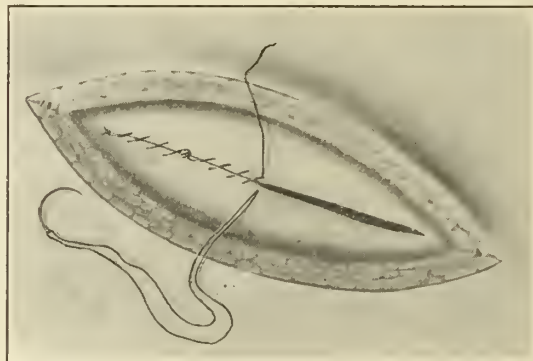


Fig. 3

It is evident that this suture has the safety of the interrupted suture, i. e., a single break in the strand will jeopardize only that portion of the wound between two knots. It has the advantages over the completely interrupted suture of (1) economy of time, and (2) economy of material. Once the assistant is familiar with the detail of cutting, it takes little more time to introduce than a simple continuous suture. The second free end which is discarded in cutting each of a series of interrupted sutures is here saved.

I have found no description of this suture in the literature.

502 Beaumont Medical Building.

TWENTY-SIX THOUSAND KAHN TESTS COMPARED WITH WASSERMANN

Beginning with April 1, 1926, both the Wassermann and the Kahn tests have been performed on all blood specimens reaching the Illinois State laboratory for the serum diagnosis of syphilis. A record of many thousands of Kahn tests has thus accumulated in comparison with the Wassermann test. Thomas G. Hull, Springfield, Ill. (*Journal A. M. A.*, June 11, 1927), reports on the results. Kahn and Wassermann tests were made on 25,744 specimens with relative agreement in 97.8 per cent. Clinical histories on 200 specimens in which the Wassermann and Kahn tests disagree indicated that the Kahn test is more sensitive than the Wassermann test in treated cases. The advantages of the Kahn test are in the saving of labor, time and cost; in the definite character of Kahn reactions in specimens in which the Wassermann is anticomplementary; in comparative simplicity, and in reduction of technical errors.

THE JOURNAL

OF THE

Missouri State Medical Association

NOVEMBER, 1927

EDITORIALS

THE ST. LOUIS TORNADO

On September 29, at about five minutes after one o'clock in the afternoon, a tornado of astounding violence tore its way through the heart of the residential section of St. Louis just west of Grand Avenue. In the space of five minutes the terrific pressure of an eighty mile wind damaged property to the extent of \$20,000,000 and took a toll of seventy-one lives in a territory extending from Vandeventer Avenue to Taylor Avenue and from Market Street to Natural Bridge Road. This is one of the most thickly populated sections in St. Louis, chiefly of the middle class people, but numerous homes on stately Lindell Boulevard were severely damaged and some of them beyond repair.

Olive Street, thickly lined with small business houses, was filled with debris from ruined and damaged buildings, telegraph, telephone and electric light wires, and made impassable one minute after the storm struck it. On Olive at Sarah Street was a building containing the offices of a number of physicians. All these offices were wrecked and the physicians' equipment ruined but no lives lost.

The Wall Building on Olive at Vandeventer, a six story building entirely occupied by physicians and dentists, suffered no serious damage but the electric lights, elevators and the power for X-ray and other apparatus were destroyed and not restored for several days.

In the northern part of the city the Mulanphy Hospital was completely wrecked but none of the sixty-three patients were injured. The hospital had to be abandoned and the patients distributed among other hospitals. The Deaconess Hospital at West Belle and Sarah was damaged to the extent of \$65,000 and the Shriners Hospital for Crippled Children, near Forest Park, was damaged to the extent of about \$25,000. No persons were injured at either of these hospitals.

None of the buildings along Grand Avenue occupied chiefly by physicians and dentists were damaged but the Beaumont Medical, Humboldt, University Club and Metropolitan buildings were all deprived of light and power for several days. The Missouri The-

ater Building where the Association has its headquarters is the only large building in the district that was not deprived of these facilities.

The tornado struck the city with such suddenness and passed through with such rapidity that it was several hours before those who did not live in the damaged area were aware that any serious damage had been done. The hospitals, however, soon were made aware of the casualty when calls for ambulances flowed in and numerous automobiles brought injured persons needing attention. This brought the calamity to the attention of the physicians and through the quick organization of a relief force of the members of the St. Louis Medical Society by the President, Dr. C. A. Vosburgh, and the ready activity of the Red Cross, medical aid was almost immediately furnished. Tetanus antitoxin was supplied free to all injured persons and administered at all the hospitals and by the emergency physicians. Thus far no case of tetanus has developed although the nature of these injuries would make this danger a real problem.

Among the physicians in the damaged area whose offices were destroyed or damaged are the following: Drs. F. L. Finley, E. C. Funsch, W. J. Gallagher, M. E. Haase, Alonzo G. Hobbs, A. H. Horne, M. Dwight Jennings, W. F. McConkey, A. H. Myerdict, W. H. White.

MACFADDEN TRIES AN OLD DODGE

Bernarr Macfadden attempts an explanation of his diatribes against the medical profession. We suspect that the exposures by the Bureau of Investigation of the American Medical Association and Hygeia as well as the numerous letters Macfadden says he has received from physicians "objecting to the criticisms aimed at medical practice," have pricked his bump of conceit. At any rate we have a reprint of a long "Editorial" from him on "Doctors and Doctoring," probably sent to every physician in the country. In this remarkable screed of 2335 words Macfadden occasionally praises doctors lightly but mostly severely lambastes them, especially condemning "allopathic Doctors." He tells us that medical doctoring is all right—when it is done according to Macfadden's notions; no drugs, no serums, no vaccines, no anything to assist the body in combating disease. All such methods Macfadden distinctly opposes and he condemns as criminals all doctors who "scare people into being vaccinated and adopt other medical measures through fake epidemics."

Accompanying this product of Bernarr's



P. & A. photograph.

FRONT OF APARTMENT-HOUSE BLOWN OUT BY PRESSURE FROM WITHIN, LEAVING THE OCCUPANTS UNHARMED



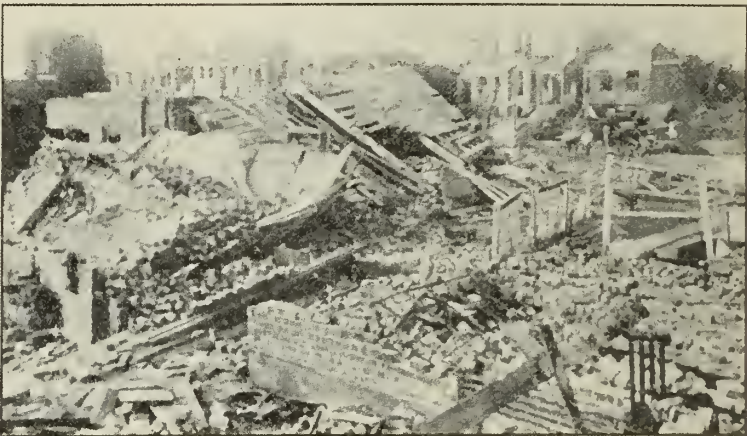
Copyright by the Henry Miller News Picture Service, Inc.

SCHOOL PARTLY WRECKED WHILE IN SESSION, FROM WHICH ALL THE CHILDREN WERE LED IN SAFETY



International Newsweek photograph

DAMAGED HOSPITAL, NONE OF WHOSE SIXTY-THREE PATIENTS WAS HURT



Wide World photograph

RUINS OF GARAGE AND BAKERY, FROM BENEATH WHICH A YOUNG GIRL WAS TAKEN UNSCRATCHED AFTER HAVING BEEN BLOWN THROUGH A WALL



P. & A. photograph

A FAIR SAMPLE OF CONDITIONS IN THE WRECKED DISTRICT. THIS PHOTOGRAPH WAS TAKEN ON OLIVE STREET SHORTLY AFTER THE STORM WENT BY, AND JUST AS STREET-CARS AND AUTOS BEGAN TO VENTURE ABOUT ONCE MORE

A FEW GLIMPSES OF WHAT THE TWISTER DID IN ST. LOUIS

brain-storm is a more dignified and conciliatory effusion from the office of the president of Macfadden's Publication signed by one O. J. Elder, President. Mr. Elder salves the wounds Macfadden inflicts, or attempts to mollify the physician, by saying that *Physical Culture* has no quarrel with the honest physicians but distinctly desires to cooperate with them. He says "there is nothing for the honest, reputable physician and the *Physical Culture Magazine* to quarrel about. On the other hand, there is a great deal in common between them which would call for the closest sort of cooperation. The next paragraph in the letter gives us a peep at the ebony countenance hidden by the conciliatory verbiage of Mr. Elder's letter. He writes: "We should very much like to get the names of doctors who are in sympathy with the principles expressed in the *Physical Culture Platform* and who are prescribing to their patients along the lines of these principles. We would like to be in a position to recommend such doctors to our readers in their communities. May we register you on this list?"

This is an old, old dodge practiced by the compilers of "sucker" lists for many, many years. We hope no Missouri physicians have fallen into the trap set by the vainglorious Macfadden and baited by the plausible Elder.

DECLINE OF THE PATENT MEDICINE

The press has taken cognizance of the enormous decline in self-drugging by the people and the waning popularity of the patent medicine. The *St. Louis Post-Dispatch* tells us that the people have a new "medicine man—the doctor," the prescription having taken the place of the patent medicine. The president of the American Pharmaceutical Association, Mr. Theodore J. Bradley, at the meeting of that organization in St. Louis last August, declared that the raising of the general standard of education was a reason for the decline of the patent medicine although the pure food drug law has helped. He said this higher intelligence among the people caused them to demand more ethical service in the preparation of drugs and that the people were getting away from the idea of expecting cures from the patent medicine bottle. The *Post-Dispatch* called attention to the large number of patent medicine manufacturers that formerly flourished in St. Louis and distributed "train loads of stuff that was vaguely related to the dubious pharmacopeia of the aborigines most of which is now confined to varnishes and insect sprays."

The *Saturday Evening Post* tells us that not so many years ago medical practitioners "dosed their patients with large draughts of dark and

ill-tasting drugs." Now, however, "all but the more ignorant classes of patients have given up expecting miracles out of a bottle, and calmly accept the wisdom of their physicians in prescribing rest, a change of diet and habits, rather than pellets and draughts." The *Saturday Evening Post* captioned its editorial "The Drugless Age," and expressed the fear that the pendulum might swing too far, the practitioner becoming too skeptical in his attitude and the patient too hopeless.

There is no likelihood that the regular medical profession will ever reach a drugless age in spite of the rantings of the drugless healers and the diatribes of Bernarr Macfadden.

While the higher education which people now aspire undoubtedly has had much to do with outlawing patent medicines the greatest influence in this direction has been the American Medical Association through its exposure of frauds in the pharmaceutical field. No longer possible is it for the maker of a patent or proprietary medicine to fake the public for any length of time, for the Council on Pharmacy and Chemistry of the American Medical Association will promptly expose the attempt and very soon this information becomes public property through the cooperation of the press. Here the higher intelligence of the people manifests itself and the demand for the article ceases. Again, under the national pure food and drug law it is no longer possible to market the strongly alcoholic preparations that formerly provided the "kick" for a large number of estimable people and masqueraded as patent medicines, hence the disappearance of this class of tippie.

In the legitimate pharmaceutical profession manufacturers of remedies that have a real value seek the approval of the Council on Pharmacy and Chemistry and after this is obtained the people have the satisfaction of knowing that the article at least contains what the manufacturer says it contains and that his statements of its remedial benefits are not exaggerated or deceptive. It is from this field that our remedies in the future will come, in fact are for the most part coming today, and their use is largely limited to prescription by physicians. This is wise and enhances the importance of drugs for, as The *Saturday Evening Post* comments, "they are used with more discrimination than formerly, but for that very reason are valuable."

There will never be a drugless age but there may very well come a time when drugs, vaccines, antitoxins, and the extracts of ductless glands will give the physician opportunity to select a specific remedy for very many more diseases than is possible in the present state of our knowledge.

NEWS NOTES

The formal opening of the new St. Louis Maternity Hospital, 630 South Kingshighway, St. Louis, was held on October 22 from two until five o'clock.

Dr. Louis H. Burlingham, St. Louis, Superintendent of Barnes Hospital, was elected president of the American Hospital Association at the annual convention held in Minneapolis, October 12.

The Department of Obstetrics of St. Louis Maternity Hospital held a special clinic "Heart and Pregnancy" at Barnes Hospital, St. Louis, October 22. The clinic was conducted by Prof. S. A. Gammeltoft, of the University of Copenhagen.

Dr. Fred F. McKenzie, instructor and assistant in animal husbandry in the experiment station of the University of Missouri, has resigned to accept a position as director of the College of Agriculture at the International College, Smyrna, Turkey.—Science.

Dr. P. D. Mossman, Rolla, Director of the Trachoma Hospital, was ordered on October 12 by the Surgeon-General of the U. S. Public Health Service to Indianola and such other places in Mississippi as may be necessary to investigate suspected cases of trachoma.

The Board of Education of St. Louis has voted to maintain the present rule providing for compulsory vaccination of all children attending the public schools. This decision was reached after the Board held a public hearing on the question when those opposed and those who favored the rule presented their arguments.

The Southeast Missouri Medical Association held its annual meeting at Poplar Bluff October 11, 12 and 13. New officers for the ensuing year are: Dr. Paul Baldwin, Kennett, president; Dr. M. L. Cone, Campbell, vice president; Dr. W. R. Goodycoontz, Flat River, recording secretary; Dr. E. J. Neinstedt, Blodgett, corresponding secretary.

Dr. Montrose T. Burrows, St. Louis, Associate Professor of Experimental Surgery in Washington University Medical School, and Director of the Research Department of Barn-

ard Free Skin and Cancer Hospital, has resigned both positions and has entered private practice at Pasadena, California. The result of his research work in cancer will be published as soon as he is able to complete his report.

Dr. E. H. Kessler, St. Louis, one of the leading roentgenologists of Missouri, has retired temporarily from active practice. He will continue his interest in X-ray and radium work to a limited extent, particularly in consultation service. He will remain at his present address in St. Louis, but feels that the condition of his health will not permit him to perform the duties demanded by the daily labor in the laboratory.

Unusual honors have been thrust upon Missouri physicians specializing in radiology by the election of two Missouri radiologists to the highest offices in the representative radiological societies of the country. Dr. E. C. Ernst, of St. Louis, was recently elected President-Elect of the American Radium Association he previously having been elected President-Elect of the Radiological Society of North America. Dr. E. H. Skinner, of Kansas City, was elected Chairman of the Section on Radiology of the American Medical Association last May and on September 23 was elected President-Elect of the American Roentgen Ray Society at the meeting in Montreal.

The Southern Association of Anesthetists will hold its Sixth Annual Meeting at Memphis, Tennessee, November 14 and 15. This Association meets annually in conjunction with the Southern Medical Association and is a regional unit of the Associated Anesthetists of the United States and Canada. The meetings will be held at the Claridge Hotel in Memphis. Any member desiring further information concerning the meeting should communicate with Dr. W. Hamilton Long, Secretary, Francis Building, Louisville, Kentucky.

The new building for the St. Louis University School of Medicine was completed in time for the opening of the session, all building speed records being broken in the rapidity of construction of this addition. The building cost \$500,000 and was completed in four and one-half months. It is situated at Grand and Caroline, the old buildings having been torn down, and contains four floors. A fully equipped modern cafeteria occupies the basement, where also there is a large dining room for the

faculty and quarters for recreational purposes. On the first floor are found the chemical laboratory with research laboratories, graduate students' laboratories, lecture room, and students' health service quarters. Quarters for the faculty, the biological museum, biological laboratory and additional laboratories for graduate students are located on the second floor. The third and fourth floors contain additional laboratory and lecture rooms.

The United States Civil Service Commission announces open competitive examination for the position of junior medical officer. Applications for this position will be rated as received at Washington, D. C., until December 30. The examination is to fill vacancies in Veterans' Bureau Hospitals throughout the United States and vacancies in positions requiring similar qualifications. Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of civil service examiners at the postoffice or customhouse in any city.

The destruction of the St. Louis Mullanphy Hospital in the tornado on September 29 has caused the Sisters of Charity of St. Vincent de Paul, who have been at the head of the Mullanphy Hospital since its foundation in 1828, to begin at once plans for the construction of a new hospital building that had been under contemplation for some time. The new hospital will be larger than the building which was destroyed and will be located on Kingshighway Memorial Boulevard between Spalding and Wabada Avenues. The St. Louis Mullanphy Hospital is the oldest hospital in St. Louis. It was made possible by a gift from Mr. Mullanphy whose name is connected with many charitable undertakings in St. Louis. The first hospital opened in 1822 was a mere log house with two rooms and a kitchen. In 1832 a brick hospital of four stories was built and here many of those stricken with Asiatic cholera in 1832 were treated. The hospital on Montgomery street which was demolished by the tornado was erected in 1874.

As hosts to the Southern Medical Association The Memphis and Shelby County Medical Society extends a most cordial and very hearty invitation to physicians to attend the meeting in Memphis, November 14-17. Memphis is ideally situated for this meeting. It is centrally located, the hotels rank with the best in the entire country, the new Hotel Peabody, a \$5,000,000 hostelry with 600 guest rooms, being second to none. All meetings will be held

in the Municipal Auditorium which has a seating capacity of 12,500 and can be subdivided in a remarkably advantageous way to accommodate various smaller assemblies. Hospital, clinical and teaching facilities of Memphis are equalled in very few cities under 500,000 in population. St. Joseph's, the Methodist, the Baptist and the Memphis General hospitals rank with the best anywhere. The Memphis and Shelby County Medical Society has a membership of over 300. Each member joins in the sincere hope that the largest attendance in the history of the Southern will be present.

Dr. S. W. Ranson, Professor of Neuroanatomy at Washington University, St. Louis, has been appointed professor of neurology and director of a Neurological Research Institute at Northwestern University Medical School. Quarters for the new institute have been provided in the Ward Memorial Building, which was erected last year on the McKinlock campus. The institute will be devoted entirely to research and will conduct investigations in the anatomy, physiology and pathology of the nervous system and in clinical neurology and neurosurgery. Dr. Lewis J. Pollock, Professor of Neurology, and Dr. Loyal E. Davis, Associate Professor of Surgery, will cooperate with Dr. Ranson. An Assistant Professor of Neuropathology and an assistant professor of anatomical Neurology as well as younger men with training in physiology and biochemistry will be appointed. Problems connected with the innervation and nervous control of the skeletal muscles will be among the first with which the institute will deal.—Science.

Dermatologists will make an effort to curb the frenzy of people to beautify themselves through artificial means if the appeal of Dr. Charles F. Pabst, chief dermatologist of Greenpoint Hospital, Brooklyn, New York, finds general response. In a recent statement he declared that legislation should be enacted to save American women from the disaster of artificial face-lifting. He called attention to similar acts by the French government against mutilations of the skin in the barbarous rites prevalent among the half civilized races in the French colonies. He says our government should follow this example and pass a law to prevent our women from becoming victims of incompetent physicians and beauty culture exponents. He tells us that "the average normal adult has sixteen square feet of skin, which would form a mat two feet wide and eight feet

feet long, and the modern American woman treats it like a door-mat." "The skin of civilized man—and woman—is a delicate organ, as delicate as the heart, which works twenty-four hours a day, adjusting the temperature of the body, keeping infection from entering. It requires little external aid except a daily washing in lukewarm water and a mild soap. But the modern woman abuses every inch of her skin from the soles of the feet to the hair."

The announcement is made of the consolidation of the publishing houses of Doubleday, Page & Company and George H. Doran Company. Until January 1, 1928, the two houses will be operated as at present as separate units. From and after January 1, 1928, the Company will assume the name of Doubleday, Doran & Company, Incorporated. In England the business will be conducted under the name of William Heinemann, Limited. The Corporation headquarters will be, executive offices, Garden City, New York; 244 Madison Avenue, New York City; 99 Great Russell Street, London, England. Publishing plants; Garden City, Long Island, New York; Kingswood, Surrey, England. The consolidation brings together three of the most important and influential units in publishing in the English language whose lists include a great many of the most distinguished and popular writers of our time. The companies and subsidiaries included in the merger are: In America: Doubleday, Page & Company; George H. Doran Company; Nelson Doubleday, Inc.; Garden City Publishing Company; Doubleday, Page Book Shops, Inc. In England: William Heinemann, Limited; The World's Work, Limited; William Heinemann (Medical Books) Limited.

The Leslie Dana Gold Medal was awarded to Dr. Lucien Howe, of Buffalo, New York, at St. Louis, October 17, Mr. Louis H. Carris, Managing Director of the National Committee, of Buffalo, making the presentation. Dr. Howe was selected for this honor by the National Committee in cooperation with the Missouri Association for the Blind through whom the medal is offered annually by Mr. Leslie Dana, of St. Louis. Mr. Carris referred to Dr. Howe as the "father of ophthalmia neonatorum legislation" and pointed out that ophthalmia neonatorum was for centuries the principal cause of blindness; that up to the time of the organization of a formal movement for the prevention of blindness in the United States 28 per cent of the children in schools for the blind had lost their sight through this

one cause; and that the records of the National Committee show that in recent years reductions of 50 per cent in the frequency of this disease as a cause of blindness have been brought about over the country at large. Dr. Howe was responsible for the first law on preventing ophthalmia neonatorum, the Howe Law, passed in 1890 in New York State. Similar laws making it obligatory for midwives, doctors and nurses to report promptly all cases of ophthalmia neonatorum observed and a law requiring the use of prophylactic drops in the eyes of all new born babies have since been enacted in almost every state. Dr. Howe has recently established at Harvard University the memorial institution known as the Howe Laboratory of Ophthalmology, of which he is the first director. He, with his family, has given \$250,000 toward the establishment of this laboratory.

A mandatory ruling requiring every employee in an industrial shop to wear goggles while at work was advocated by Harry Guilbert, Director of Safety of the Pullman Company, in an address before a joint session of the National Safety Council and the National Committee for the Prevention of Blindness at Chicago, October 14. Addressing safety engineers, industrial physicians, oculists and others concerned with the prevention of blindness, Mr. Guilbert revealed that such a mandatory rule is enforced in all the repair shops and yards of the Pullman Company, and that as a result the eyes of approximately a thousand of their men have been saved from serious injury or destruction. The repair shops of the Pullman Company are the only shops where goggles are worn universally, from president down to office boys or visitors who may come into the plant for even a few minutes. He declared that there is no such thing as a non-hazardous occupation so far as eye injuries are concerned. Wherever men and women are at work fragments of metal, splashing chemicals and molten metal, splinters of wood, and cinders are bound to get into their eyes unless the proper protective devices are used. Let the person who declines to wear goggles in an industrial plant consider this one fact: 40,000 glass eyes are imported by the United States each year; they are works of art and sometimes hard to distinguish from the real thing; they are good to look at, but impossible to look through. You cannot see a thing with a glass eye.

Dr. Leland O. Howard, for more than thirty-three years chief entomologist of the United

States Department of Agriculture, has retired as the chief of the Bureau of Entomology and has been succeeded by Dr. C. L. Marlatt, a member of the department since 1888 and for the past five years associate chief in charge of the regulatory work of the bureau, and also chairman of the Federal Horticultural Board. Dr. Howard is now in his fiftieth year of Government service, having joined the entomological branch of the Department of Agriculture in 1878 soon after his graduation from Cornell University. He retires as chief at his own request, but this does not mean retirement from service. He has passed his seventieth birthday and has asked to be relieved of the administrative duties of his office, but proposes to devote his full energies to the field of entomological research in which he has long been recognized as perhaps the most distinguished investigator. His favorite fields are medical entomology and parasitology. Dr. Howard was a leader in the mosquito crusade. As early as 1892 he published results of experiments showing that certain types could be controlled by the use of kerosene. His publications on the house fly dating from 1896, to his book, *The House Fly Disease Carrier*, in 1911, were largely responsible for the anti-house fly crusades all over the world in the last twenty years. Dr. Howard is a member of the three great American associations of limited membership, the National Academy of Sciences, the American Philosophical Society, and the American Academy of Arts and Sciences. He was Permanent Secretary of the American Association for the Advancement of Science for twenty-two years, and its president in 1920-21. He has been made honorary member of many foreign scientific societies and is the only American honorary member of the Academy of Agriculture of France, and received several decorations among which are the Cross, Chevalier de la Legion d'Honneur, and the Cross, Officer de l'Ordre du Merite Agricole.

The following articles have been accepted for New and Nonofficial Remedies:

E. Bilhuber, Inc.

Bromural

Parke, Davis & Co.

Diphtheria Toxin-Antitoxin, 0.1 L-P. D. & Co.

Swan-Myers Co.

Capsules Ephedrine Hydrochloride—
Swan-Myers, 0.05 Gm.

OBITUARY



WILLIAM F. KIER, M.D.

Dr. William F. Kier, St. Louis, a graduate of St. Louis Medical College (now Washington University School of Medicine), 1873, died at his home September 30, 1927, after an illness of two weeks, aged 78. Death was due chiefly to infirmities of age. He was one of the leading physicians of St. Louis for more than fifty years, specializing in gynecology, and was noted not only for his eminence in the medical profession but for his charitable work among the poor and he was held in high esteem by his fellow physicians.

Dr. Kier was born in Leechburg, Pennsylvania, August 4, 1849, and received his early education in West Newton Academy, West Newton, Pennsylvania, and in Pittsburgh. After completing his education at the St. Louis Medical College he went to Germany where he attended Heidelberg University. He was a member of the St. Louis Medical Society and the State Association and a Fellow of the American Medical Association.



JACOB P. RINKEL, M.D.

Dr. Jacob P. Rinkel, St. Louis, a graduate of Washington University School of Medicine, 1881, died September 22, 1927, aged 72.

Dr. Rinkel was a native of Missouri and received his early education in the public school of Warrenton, Missouri. After receiving his medical degree he practiced medicine at Brighton, Illinois, for about eight years, moving to St. Louis thirty-six years ago. He was a member of the St. Louis Medical Society and the State Association.



FREDERICK W. ABEKEN, M.D.

Dr. Frederick W. Abeken, St. Louis, a graduate of Missouri Medical College (now Washington University School of Medicine), 1876, died at the Lutheran Hospital, September 29, 1927, of uremic poisoning, aged 80.

Dr. Abeken was one of the city's oldest and best known physicians. He was born in Osnabrueck, Germany, July 22, 1846. After due preparation he graduated with the degree of civil engineer from the University of Leipzig. He then traveled to South America. He eventually entered the University of Cincinnati for the course of medicine and after receiving his degree from the Missouri Medical College he began practicing in St. Louis. For a number of years he was connected with the City Dispensaries and was chief patholo-

gist for the Coroner's office for sixteen years. He was active in many civic organizations and especially in the proper education, both physical and mental, of children. He was a member of the St. Louis Medical Society, the State Association, The Irvin Masonic Lodge, The Concordia Turn-Verein, Western Rowing Club, and several other organizations.

Dr. Abeken is survived by his widow and three sons, Henry W., Dr. Frederick G., and Rodowe H. Abeken.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1927

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Camden County Medical Society, December 31, 1926.

Holt County Medical Society, January 21, 1927.

Iron County Medical Society, March 4, 1927.

Madison County Medical Society, March 9, 1927.

Dent County Medical Society, April 2, 1927.

Ralls County Medical Society, April 4, 1927.

Platte County Medical Society, April 7, 1927.

Atchison County Medical Society, April 9, 1927.

Chariton County Medical Society, April 15, 1927.

Montgomery County Medical Society, May 7, 1927.

Vernon-Cedar County Medical Society, August 1, 1927.

Christian County Medical Society, August 3, 1927.

Lafayette County Medical Society, August 11, 1927.

Bates County Medical Society, August 16, 1927.

Howell-Oregon County Medical Society, September 29, 1927.

Miller County Medical Society, October 12, 1927.

Sullivan County Medical Society, October 12, 1927.

St. Genevieve County Medical Society, October 14, 1927.

Scotland County Medical Society, October 18, 1927.

JEFFERSON COUNTY MEDICAL SOCIETY

A call meeting of the Jefferson County Medical Society was held at Festus, September 23, 1927. The meeting was called to order by the president, Dr. J. W. Pickel. Barnhart. Dr. N. W. Jarvis, Festus, secretary, read the minutes of the previous meeting which were approved.

Dr. C. E. Fallet, DeSoto, favored the Society by reading a paper on "Normal Pregnancy." The paper was well received and brought up many points for discussion which was beneficial to all present.

The attendance at this meeting is worth mentioning as there were eleven members present out

of a possible fifteen. If this attendance could be depended upon the Society would not hesitate to ask some of the postgraduate instructors of the State Association to favor them with a lecture.

N. W. JARVIS, M. D. Secretary.

PETTIS COUNTY MEDICAL SOCIETY

The Pettis County Medical Society held its first fall meeting at the Sedalia Country Club, Sedalia, at 6:30 p. m. Monday evening, September 26. The following members were present: Drs. J. M. Wilson, M. P. Shy, E. F. Yancey, D. P. Dyer, F. B. Long, W. J. Ferguson, W. T. Bishop, Cord Bohling, F. R. Morley, W. A. Beckemeyer, J. E. Mitchell, J. E. Boger, A. J. Campbell, A. L. Walter, E. H. Schaefer, A. E. Monroe and J. B. Carlisle, Sedalia: Dr. W. E. Walker, Lamonte. Guests: Dr. E. A. Dillenger, formerly of Smithton, a newcomer to the community, and Dr. Eugene P. Hamilton, Kansas City.

Following a chicken dinner with all the trimmings Dr. Hamilton gave a very interesting talk on "Intestinal Obstruction," illustrated by lantern slides, which was greatly enjoyed by all present.

J. E. MITCHELL, M.D., Secretary.

ST. LOUIS MEDICAL SOCIETY

Meeting of June 7, 1927.

The meeting was called to order at 8:45 p. m. by the President, Dr. Charles A. Vosburgh.

The following ex-presidents were seated on the stage: Drs. Louis H. Behrens, N. B. Carson, Wm. W. Graves, Roland Hill, A. R. Kieffer, John C. Morfit, Elsworth S. Smith, Wm. H. Vogt.

Dr. Behrens gave an outline of the history of cholecystography, and read a number of congratulatory letters from prominent physicians throughout the country upon the recent contribution to science by Drs. Evarts A. Graham, Warren H. Cole, Glover H. Copher and Sherwood Moore.

Dr. Graham was escorted to the rostrum by Dr. Behrens, Dr. Cole by Dr. Vogt, Dr. Copher by Dr. Graves and Dr. Moore by Dr. Morfit, where the president made the presentation of the medal and certificates of award.

Dr. Starkloff introduced Dr. George Parrish, of Los Angeles, who spoke briefly on his observations in the flooded districts of Louisiana and Southeast Missouri, and made an appeal to the profession to support the Red Cross and the State Health Commissioner in the relief work yet to be done in these areas.

The scientific program consisted of a paper by Dr. Roland Hill on "Pyloric Stenosis."

Discussion by Drs. W. McK. Marriott, John Zahorsky, T. Wistar White, H. J. Scherck, A. R. Kieffer; Dr. Hill closing.

Attendance 200.

Meeting of September 20, 1927

The meeting was called to order at 8:45 p. m. by Dr. R. J. Payne in the absence of the president and vice presidents. The minutes of the meeting of June 7 were read and approved.

Dr. Joseph Grindon presented the following resolution, which on motion was adopted:

"Whereas, an organized effort is once more made to compel the Board of Education to rescind its rule excluding unvaccinated persons from the public schools, the St. Louis Medical Society now renews the expression of its faith in the value of vaccination as a prevention against smallpox, and in the wisdom and necessity of conferring vaccinal protection upon all public school children.

We firmly hold and declare the following truths:

1. That a single successful vaccination confers protection against smallpox for a certain period of years.
2. That a second successful vaccination confers absolute life-long protection against smallpox.
3. That the theory of vaccination is supported by the most modern and most advanced conclusions of medical science.
4. That the protective power of vaccination has successfully stood the test of practical experience for one hundred and twenty-nine years.
5. That smallpox has disappeared from those countries in which there is compulsory universal vaccination, and exists in other lands in proportion to the neglect of vaccination.
6. That the practice of vaccination enjoys the unanimous support of scientific physicians throughout the world.
7. That vaccination is the greatest single sanitary measure in existence today.

In view of these facts, we respectfully urge the Honorable Board of Education to continue and to enforce the existing rule requiring the successful vaccination of all children before admitting them to the public schools, and we call upon the people of this city to lend their unqualified support to the Board in their enforcement of this rule."

On motion the following resolution, which was presented by Dr. Ravold, was adopted:

"Whereas, the record of Dr. H. W. Barker as Commanding Officer of the Veterans' Hospital No. 92, has been such as to receive the commendation and endorsement of all elements of the community interested in the veterans' welfare, and

"Whereas, Dr. Barker's resignation has been requested, given and accepted, on what is believed to be incomplete evidence, therefore be it

"Resolved, That the St. Louis Medical Society authorize its president to appoint a committee of three to request General Hines to reconsider the resignation of Dr. Barker."

The scientific program consisted of the following:
 "A New Device for the Reduction of Fractures—Demonstration—Advantages and Results," by Dr. L. G. McCutchen.

Discussion by Drs. A. E. Horwitz, Theodore P. Brookes, and W. C. G. Kirchner.

"The Selection of the Case for Pneumothorax," by Dr. Lawrence Schlenker.

Discussion by Dr. Albert E. Taussig.

Attendance 75.

ROLAND S. KIEFFER, M.D., Secretary.

Propaganda for Reform

ARTIFICIAL RIPENING OF FRUITS BY ETHYLENE.—While the use of ethylene as a means of ripening fruit is of growing commercial importance the health phases have not yet been thoroughly considered. Certain fruits and vegetables are recommended by physicians largely because of their vitamin content; whether or not this is altered by ethylene has not been determined. Possibly, also, the fruits and vegetables may be picked earlier than is the practice today, thus shortening the period of irradiation by the sun. Physicians may well watch the development of this form of food enterprise; perhaps the time may come when certain everyday foodstuffs will be purchased on the basis of vitamin units. In the meanwhile, the use of vitamin-containing products in as near a "naturally ripened" condition as possible should be encouraged when used for prophylaxis against avitaminosis. (Jour., A. M. A., September 3, 1927, p. 792.)

TREATMENT OF PERNICIOUS ANEMIA.—Minot and his co-workers report good results in the treatment of pernicious anemia by means of a diet composed especially of food rich in complete proteins and iron—particularly liver—and containing an abundance of fruits and fresh vegetables and relatively low in fat. Koessler and his associates believe that in some cases, at least, the phenomena accompanying pernicious anemia are the result of long continued deficiency in vitamin A and possibly also in vitamins B and C and propose the treatment of per-

nicious anemia with a high coloric diet rich in vitamins. Therefore Minot and Koessler would prescribe an adequate general diet, including a large quantity of liver and kidney. Minot and his co-workers would reduce the fats whereas Koessler and his associates declare that butter, cream, milk and cod liver oil should be partaken of in large amounts. Macht reports that the blood serum of patients with pernicious anemia contains a toxin, and that this blood serum can be detoxified by irradiation with ultraviolet rays. Furthermore, he found that the effect of ultraviolet rays could be increased by introducing into the serum to be treated dyes which act as sensitizers. Since liver is the storehouse for blood pigments, some of these pigments may help increase the effectiveness of light and thus some of the good effects of liver diet may be connected with the liver pigments that are administered. (Jour., A. M. A., September 3, 1927, p. 793.)

PHOSPHOBION NOT ACCEPTABLE FOR N. N. R.—The Council on Pharmacy and Chemistry reports that Phosphobion, manufactured by Dr. Theodor Koenig, Munich, Germany (Carl F. Lauber, Philadelphia, distributor), are pills, each stated to contain zinc phosphide, 0.0025 Gm., and iron glycerophosphate, 0.03 Gm. According to the advertising, Phosphobion represents a new treatment for sleeplessness. It is claimed that sleeplessness is caused by a deficiency of phosphorus in the organism and that the phosphorus in Phosphobion has the power of supplying this deficiency. No evidence is offered in favor of the theories on which the claimed action of Phosphobion is based, nor convincing evidence in favor of its claimed action. The Council found Phosphobion unacceptable for New and Nonofficial Remedies because it is an unscientific mixture of drugs marketed under a nondescriptive name with claims that are not supported by acceptable evidence and in a way to lead to its ill advised use by the laity. (Jour., A. M. A., September 3, 1927, p. 809.)

DIGITALIZATION.—The term "digitalization" was coined to signify the full pharmacologic action of the drug to the limit of safety. Laboratorial and clinical investigations have developed the digitalization amount of digitalis to be, for a 150 pound (68 Kg.) adult weight, a minimum of 22½ grains (1.45 Gm.) and a maximum of 33 grains (2.2 Gm.). Half the minimum dose may be given at once and then 2 or 3 grains (0.13 to 0.2 Gm.) every six hours, or the other half of the minimum dose may be given on the second day. If the patient needs more digitalis for digitalization, the amount is gradually increased by 2 or 3 grains, perhaps every six hours, until symptoms of digitalization appear. Digitalization should not be attempted if the patient has previously been taking digitalis. The dosage advised, must of course be greatly modified with frail, underweight persons. An overweight person, when that weight is largely due to fat, must not be given doses according to his weight. The condition of the patient must also be taken into account. Digitalization means digitalis poisoning. Such poisoning should not be inaugurated except by a careful determination of the exact condition of a patient to be treated. The general practitioner should not thoughtlessly digitalize his patient unless he has hospital or other facilities for determining the exact condition of his heart and his excretory ability. (Jour., A. M. A., September 10, 1927, p. 884.)

BOOK REVIEWS

RECTOSCOPIE SIGMOIDOSCOPIE. Par le Dr. R. Ben-saude. Médecin de l'Hopital Saint-Antoine. Traité D'Endoscopie Recto-Colique. Deuxième édition. Avec 115 Figures Dans le Texte. 99 Figures Hors Texte en Noir et en Couleurs. Ouvrage Couronné. Par l'Académie de Médecine. Masson et Cie, 120 Boulevard Saint-Germain, Paris. (Vle). 1926. 100 fr.

The entire field of diagnostic proctoscopy is well covered in this very complete volume. While the text is in French the subject matter can be followed with little difficulty as the excellent illustrations, many of them in color, serve to convey a satisfactory explanation of the text. The author has developed the subject in much detail, beginning with an historical survey and continuing with an exposition of the various types of instruments and their usage. The technic for the preparation of the patient is most satisfactorily handled. Many excellent and rather novel points are suggested.

Illustrations are profuse and the numerous color plates stimulate the interest of the reader. They portray the more common pathologic entities affecting the rectum and sigmoid and are supplemented by numerous illustrations and drawings showing the microscopic pathology of the tissues involved. Sections of practically all conditions are shown.

While the book is essentially diagnostic in its scope, touching only briefly the effect of treatment by X-ray, radium and diathermy on rectal tumors, a more detailed explanation of the effects of treatment might prove of distinct value to those with less opportunity to study these cases. Nevertheless, the work is most satisfactory and is a distinct addition to a field in which the literature is none too numerous.

A. Mc. M.

HEALTH SUPERVISION AND MEDICAL INSPECTION OF SCHOOLS. By Thomas D. Wood, M.D., College Physician, Adviser in Health Education, and Professor of Physical Education, Teachers College, Columbia University, and Hugh G. Rowell, M.D., Physician to the Horace Mann Schools, Lecturer and Assistant Physician, Teachers College, Columbia University. Octavo of 637 pages, with 243 illustrations. Philadelphia and London: W. B. Saunders Company, 1927. Cloth, \$7.50 net.

This volume is the most complete work of its kind that has come to the reviewer's attention. The reputation of the authors is sufficient guarantee of the accuracy of its text. The senior author has long been identified with the progress of physical examination of school children.

There is a discussion of the development and present status of legislation affecting health supervision of schools, the methods of physical education and the cost. The control of communicable disease is especially complete and up-to-date. The various diagnostic tests and methods of immunization and quarantine are discussed. There are numerous charts for the recording of defects and the means of following the child through school. For the correction of defects and the cooperation of parents and family physician, matters which many authorities find especially difficult, the authors offer much from their own extensive experience. There is an excellent discussion of dental hygiene as well as orthopedic defects. Intelligence tests to detect the child below standard as well as

the gifted child are presented. Finally the construction of the building and seats, with reference to lighting, heating and ventilation, make the book valuable for school authorities and indispensable for physicians engaged in health supervision of schools.

H. L. D.

STANDARDS AND TESTS FOR REAGENT AND C. P. CHEMICALS. By Benjamin L. Murray, Member American Chemical Society, Chemical Society (London), American Electrochemical Society, etc. Second edition, revised and enlarged. New York: D. Van Nostrand Company, Inc. Eight Warren Street. 1927. Price \$5.00.

With the rapid extension of the use of analytical chemicals of reagent grade both in instructional and in commercial laboratories the need for authoritative statements of permissible variations in purities and of methods for detecting impurities has become imperative. So long as these limits are not officially defined by chemical societies it is fortunate for the science that the standards have been set by the judgment and large commercial experience of the author.

The extension of the standards to C. P. chemicals in this second edition is a welcome attempt to set standards of purity and give methods of testing over two hundred C. P. chemicals in a field of widely divergent qualities of manufacture. The book should do for reagent and C. P. chemicals what the U. S. Pharmacopocia has done for standard medicinal chemicals—stabilize both the manufacture and the use. It is suggested that the quantitative tests might be extended with profit and comfort to the chemist.

C. W. G.

1926 COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION, Rochester, Minnesota. Octavo of 1329 pages, with 386 illustrations. Philadelphia and London: W. B. Saunders Company, 1927. Cloth, \$13.00 net.

This volume contains a wide range of subjects contributed by members of the Mayo Clinic and members of the Mayo Foundation for medical education and research, graduate school, University of Minnesota. The material has been selected to meet the interest of the general surgeon and diagnostician. Papers of general interest in more limited fields have been abridged, abstracted, or referred to by title only.

The frontispiece is a photograph of the late Dr. Russell D. Carman, who was head of the section on roentgenology. Dr. Carman graduated from Marion-Sims College of Medicine, St. Louis, 1901. For a time he served as Professor of Roentgenology at St. Louis University. Later he occupied the same post at Washington University. He became a member of the Mayo Clinic, January 1, 1913, and remained so until his death which occurred June 17, 1913, and remained so until his death which occurred June 17, 1926. Dr. Carman held an enviable position, having gained world wide recognition in his chosen field. His death is an irreparable loss to the world.

L. H. S.

A TEXTBOOK OF PHYSIOLOGY. By William D. Zoet-hout, Ph.D., Professor of Physiology in the Chicago College of Dental Surgery (Loyola University) and in the Chicago Normal School of Physical Education. Second Edition. The C. V. Mosby Company, St. Louis. 1925. Price \$4.50

A greatly improved and enlarged edition, yet very well adapted to the needs of an intermediate textbook. The book is well written, with few illustrations, and the story is briefly told.

C. W. G.

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COMMITTEE } C. B. FRANCISCO, M.D.
M. A. BLISS, M.D.

ORIGINAL ARTICLES

THERAPEUTIC MALARIA IN GENERAL PARESIS*

JAMES F. McFADDEN, M.D.

ST. LOUIS

Within recent years much has been written relative to the treatment of dementia paralytica by artificially induced malaria. This has been heralded by the general medical profession and the lay public as a new therapeutic endeavor, but upon looking back we are reminded that "nothing is new under the sun." Hippocrates in 430 B.C., gave a very clear description of malaria, and he is stated to have remarked that epileptics were often cured of their fits by malaria and that the insane may improve following an acute febrile condition.

Oribasius, 355 A.D., writes: "Epilepsy also is a convulsion. A quartan then cures epilepsy, so that if the quartan comes after epilepsy, the epilepsy comes to an end, while epilepsy never supervenes upon a quartan."

It has been reported that Louis XI. of France, who was an epileptic, begged for prayers to be offered for him to suffer from the quartan fever so that his disease might be cured, and Menape, who died in 1561, wrote that quartan fever was a cure for convulsions and melancholia.

Dubuissan, 1816, described a three years remission in a general paralytic in whom artificial suppuration had been produced. In 1854, Jacobi treated general paralytics by means of abscesses and in 1879 Meyer produced suppuration in the scalp. He obtained eight remissions in fifteen cases of general paralysis. Four of these lasted over three years. Many others during the past century have reported favorable results in treating the disease with suppuration.

In 1887 Wagner von Jauregg suggested the use of malaria for treating general paresis but he did not use it as a therapeutic measure until 1917. During the thirty year period he used injections of milk, egg albumin, peptone, sodium nucleinate, tuberculin, typhoid vaccine, staphylococcic vaccine, relapsing fever and finally, in 1917, he used malaria. He now seems of the opinion that the malarial treatment is more efficient than any of its predecessors.

In 1890 Nasse saw an improvement in a general paralytic following intercurrent malaria.

TYPES OF CASES

Wagner-Jauregg reports approximately 25 to 30 per cent. of remissions in all cases, and 85 to 100 per cent. in early cases. It is only logical for one to assume that the early case will respond more readily than the advanced one. The earlier the therapeutic, the more quick and more favorable the results. This should apply practically to all diseases and their treatment. Therefore it behooves us to recognize dementia paralytica in its earliest stages and to institute treatment immediately.

There is a diversity of opinion as to which types of paresis offer the better prognosis. Some clinicians report that the prognosis is good in initial, maniacal, demented, convulsive, and taboparetics. Some record that the convulsions are aggravated or induced by the malaria while others hold that once the patient is infected with malaria the epileptiform seizures rarely recur. Some claim good results in types with which others were less fortunate. Due to the differences in results as to type it is the writer's opinion that the best way to select cases is, as stated above, to choose early ones and then be very careful to determine if the patient has sufficient resistance to withstand the onslaught of a series of malarial paroxysms.

Again, the writer feels that inasmuch as paresis is a hopeless disease, and only two

*Read before the St. Louis Neurological Society, October 31, 1927.

per cent. tend to progress to a spontaneous remission, one is justified in giving all cases the benefit of a treatment which thus far offers more hope than any other therapeutic measure. We see case reports in which the individuals were apparently in the most extreme stage but responded in an almost miraculous manner to malarial therapy. Such a one is the case of a man of advanced age, who appeared hopeless and to inoculate him would apparently only result in lowering the percentage of good results. A new strain of malaria was found and he was the only paretic available. It was argued that the malaria although not likely to benefit him would probably be of no great inconvenience and the strain could be carried on for the benefit of others. He was inoculated, and to the surprise of all he gradually improved. He changed from a helpless disoriented patient, leading merely a vegetative existence, to a more alert, oriented individual who was able to feed and care for himself about the ward.

MODE OF OPERATION

The mode of operation is unknown. Some believe that the malarial organism has a direct effect upon the spirochete while others hold that the infection by the plasmodium causes a general reaction which builds up the body resistance. Time does not permit a lengthy discussion of the theories presented. Some observers claim to have seen improvement in cases where no fever was noted but where a slight generalized jaundice was present, but the majority of clinicians seem to recognize the apparent necessity of producing a hyperpyrexia. This is consistent with the observations of those who have obtained results with substances and organisms other than the plasmodium vivax. The theory that high fever destroys the organism impresses the writer as the most tenable one. It is definitely known that the organism of syphilis fails to grow at a temperature above 104° to 105° . Weichbodt and Jahnke have shown experimentally that the complete disappearance and death of spirochetes present in scrotal chancres in rabbits could be brought about by exposure of animals so infected to temperatures from 107° to 110° F., provided such exposures were repeated at least three times.

METHOD OF INOCULATION

Inoculations may be made under the skin, intramuscularly or intravenously. Better

results are obtained by the latter method. Some have used the mosquito to transmit the malaria. This method is much more difficult, consumes more time, and is not so dependable, besides having other contraindications to be mentioned later. The writer uses the intravenous method, taking from four to ten cubic centimeters of whole blood directly from the donor and injecting it into the paretic. Some draw the blood into a syringe containing saline or glucose solutions, but in the proper surroundings this appears unnecessary. Blood has been taken into a citrate solution, kept at body temperature and inoculated an hour later with satisfactory results. The question has been asked, "Is it not necessary to type the blood?" Considering the small volume used, typing seems unnecessary as no untoward reactions have indicated the contrary.

INCUBATION PERIOD

The length of the incubation period has no relation to the season of the year. It varies from one day to ten days or more. One case inoculated from a double tertian immediately following the chill, developed a chill and fever on the following day. Ten cubic centimeters of undiluted blood were used. Another, inoculated during the height of a paroxysm, chilled on the third day. The others incubated from five to seven days, with the exception of one ten day period. This last was the one in which the blood was citrated and carried from one hospital to another, one hour intervening.

PYREXIA

The periodicity of pyrexia was not true to type as is usually found in that transmitted by the mosquito. In the first case inoculated there was an elevation of temperature on the fifth and sixth days. On the seventh day he chilled and from then on experienced the usual paroxysms daily until quinine was administered. During the first week the time clapsing between paroxysms was not equal. They occurred in pairs fairly close together, with a longer intermission between each pair. Later the periodicity was established so that the patient knew the exact hour during which the chill was to occur.

In two patients inoculated from the same source, all things being as equal as was possible, one developed a single tertian and chilled on alternate days, while the other developed a double infection and chilled

daily. Some chilled with the initial rise of temperature. Others had one or two periods of pyrexia before the appearance of chills. Some experienced only one or two chills but continued with daily periods of pyrexia. The one with the twenty-four hour incubation period had four daily paroxysms, skipped a day, then continued daily until the ninth, then aborted.

COURSE OF MALARIA

All the positive takes developed herpes labialis. One had herpes orbicularis. Jaundice was present in all cases and every one showed a definite loss in weight, which quickly returned to normal immediately after the termination of the malaria. While no marked enlargement of the spleen was elicited, several experienced tenderness over the splenic area. During the fever some of the patients became delirious. This delirium did not occur with every paroxysm.

One case developed delirium during the fifth paroxysm. This became so marked that termination of the infection was seriously considered, but subsequent paroxysms showed absolutely no delirium. The delirium encountered is not unlike that of other febrile conditions. One man who had a very slight mental change due to his paresis, became apprehensive, depressed and suicidal. Most of the cases showed depression and slight confusion only when the temperature showed a marked degree of elevation. Some showed no increase of mental symptoms at these times. Some cases appeared worse during the treatment while others showed a decided improvement from the first thermal increase.

CASE REPORTS

Case 1. Male, bookkeeper, aged 32 yrs., history of labial chancre two years previously; no other skin manifestations. He received some treatment but not intensive. When first seen he reported for examination and advice because he was unable to carry on at his work. For some time prior to this his work had been neglected, his writing could not be deciphered and his books were in hopeless confusion. He was restless, being unable to read or continue on any given task more than a few minutes. He showed a lack of interest in his work or himself. There was a beginning megalomania, first noticed when he made unnecessary purchases that he could not afford.

When first seen the outstanding symptoms were marked tremor, especially of the facial and tongue muscles, a decided parietic speech which made conversation almost unintelligible and a general lack of interest. He exhibited the classical physical and laboratory findings to make a diagnosis of general paralysis.

Here was an excellent case for treatment as

he was unusually well put up physically and an early case.

Ten cubic centimeters of malarial blood were inoculated. On the fifth day he had a temperature of 103° F. On the following morning his family reported that upon awakening he seemed more alert, showed an interest in himself and asked about the treatment. On the second day he had another rise of temperature. That evening he played a very good game of bridge. Thereafter he had regular paroxysms of chill, fever and sweats daily. After several of these he seemed quite normal mentally and showed complete insight into his previous mental state as he derived a great deal of amusement relating the foolish things he had done. The speech disturbance gradually cleared up and was practically normal when the malaria was terminated after the fifteenth paroxysm. Tonic medication was given for one month and he was permitted to work about the house and garden. Within three months after the beginning of the treatment he returned to his work and is now economically completely restored, is keeping books, writing a perfect hand and at times representing his company in business deals.

Some may hold that this case developed too early for paresis but all of the clinical and laboratory findings confirmed the diagnosis. Cases have been known to develop in two years.

Case 2. Male, 36 years of age, conducting his own business. He did not know of an initial infection. He was nervous and felt the need of medical care. His physician discovered the presence of lues and gave treatment for it. Showing no response, but exhibiting an increase of mental and nervous manifestations, he was referred for malarial treatment. He experienced difficulty in carrying on at work and frequently made mistakes. There was a parietic speech and the physical and laboratory findings confirmed the diagnosis. He was inoculated from Case 1 and on the seventh day developed paroxysms which were of the single tertian type. The malaria aborted following the eighth paroxysm. A course of quinine was given. Improvement was progressive from this time. The only untoward effect was a delirium during one paroxysm. He insisted upon returning to his work one week following the termination of the malaria and since that time he appears quite normal mentally and is carrying on at work better than before. The speech disturbance is not present.

Case 3. Male, aged 35 years, occupation not known, very markedly demented, gave absolutely no responses to questions, was unable to feed or care for himself. The diagnosis was confirmed by the usual methods. He was inoculated from patient No. 2, and developed a single infection. During the paroxysms he hallucinated and showed marked restlessness. He was untidy in his personal habits and displayed absolutely no interest in himself or his environment. Upon the termination of the malaria after fifteen paroxysms, he commenced to improve gradually. He became neat and clean in his personal habits, was able to feed and care for himself. He conversed with others and was able to give the correct year, name the president and answer other similar questions. He was not absolutely clear however and was unable to work. This case can only be termed an improved one. His family took him home and since then placed him in an institution in his home state.

He may possibly show some future improvement as only a few months have elapsed. It must be realized however that this was a markedly advanced case.

Case 4. This patient was inoculated five or six different times some of which were simultaneous with other cases who did develop malaria but it was impossible to get a take. He gave a past history of malaria.

Case 5. No malaria was available. Two days after permission for treatment was given and before the inoculation could be given, she had a convulsive seizure, terminating in death. This case is listed to impress the importance of explaining to relatives the possibilities of seizures and other complications. Had malaria been given a day or two before, the relatives would have held the cause of death as malaria. Also it would have been listed as a death during treatment.

Case 6. Male, 39 years of age, diagnosis tabes dorsalis, applied for treatment. Malaria was induced and he progressed nicely until one evening he suddenly became unconscious, respirations almost ceased, and the pulse became very rapid. He was brought out of this, but became delirious, and one day later died. At the time of this attack it was found that the patient had taken an injection of morphin for the gastric pains and immediately following this had become unconscious. His wife stated that on several occasions prior to the malarial treatment he had experienced similar reactions immediately following the use of morphin. The writer was unaware that the patient had been using morphin for the pains. This was a case of bilateral vagus paralysis, provoked by an injection of morphin. A careful search of the literature discloses only six such cases as having been reported. One of these was reported by the writer in the September, 1927, issue of the Medical Clinics of North America. Three of the cases reported were provoked by morphin.

The above cases are reported to picture the typical favorable course and reactions, the less favorable ones and also some of the complications encountered.

It is worth noting in passing that one patient who had diplopia due to a left external rectus paralysis, regained normal movement of the eye and reported that the double vision had disappeared.

In tabulating the cases treated, the non-takes will not be listed. Only those who developed malaria will be considered. There were two non-takes in the present group.

TABLE NO. 1. Author's cases treated

Cases	Result	Percentage
3.....	Full remissions	25.0%
6.....	Improvement	50.0%
2.....	Unimproved	16.7%
1.....	Died during treatment.....	8.3%
12		100.0%

Some of those listed as improved are still improving and later may be classed as full remissions.

In table No. 2 are listed 1069 cases collected from the literature.

TABLE NO. 2. Cases in literature

Cases	Result	Percentage
325.....	Full remissions	30.5%
157.....	Improvement	14.7%
586.....	Unimproved	54.8%
1069		100.0%

REMISSIONS

As seen by the above tables, the percentage of remissions is greater than the percentage of spontaneous remissions, which at most does not exceed 3.5 per cent. The average period of remission in paresis is from six months to a year. German observers have reported patients successfully employed for more than seven years following malarial therapy.

COMMENTS

1. As yet there is no other form of treatment by which so large a percentage of remissions may be produced almost at will.

2. There is no valid reason why every victim of general paralysis should not at least be given a chance, when every month's delay past a certain point becomes an irrevocable step down into dementia and death.

3. Without it you are confronted with a danger equally great if not greater than the risk which attends this treatment.

4. Some cases only show mental improvement after one year.

5. The greatest difficulty is that this treatment must be given either in a place where there are many paralytics or where fresh cases of malaria are constantly available.

6. In certain cases a mental improvement seems definitely to commence at the height of the pyrexia. A number of cases become acutely maniacal and some appear to become worse at this time. The writer believes that some of these must be therapeutic shock (Herxheimer reactions).

7. Unfortunately, definite cortical degeneration supervenes in the advanced cases of paresis; in such cases improvement is all that may be hoped for.

8. Inoculation malaria is very sensitive to quinine.

9. Inoculation malaria becomes entirely asexual in type and cannot be transmitted by the mosquito.

In conclusion, let us bear in mind that without this treatment the prognosis is hopeless, death usually ensuing in two to five years; while, if the treatment is successful, as it is in 25 to 30 per cent. of cases, the patient will regain his occupation and become once more a useful member of society.

MALARIA A CAUSE OF OBSCURE SYMPTOMS IN SURGERY

LEITH H. SLOCUMB, M.D.

ST. LOUIS

Chronic malaria as a complication may cause extremely puzzling symptoms during convalescence from operative procedures. The purpose of this paper is to direct attention to these complications, for they occur more frequently than is generally believed and in a large number of instances the cause is unrecognized. In many of these cases a previous history of malaria cannot be obtained. The majority however have had malaria although manifestations of it may not have been present for many years.

Comparatively simple surgical procedures may have a very stormy convalescence as a result of this complication. The symptoms usually manifest themselves within five or six days, though they may be delayed much longer than this. The onset is not characteristic; it may be ushered in by a chill and followed by an abrupt rise in temperature, or the temperature may rise gradually without an initial chill. These latter cases are puzzling and the diagnosis may be missed entirely unless it be remembered that chronic malaria can produce this picture.

Chronic malaria also exercises a marked influence upon wound healing. Almost invariably this process is delayed and the wound rarely heals by first intention. With the onset of constitutional symptoms the wound becomes painful and swollen, a serosanguinous exudate is present and drainage may persist for many days if the malaria is untreated. The edges of the wound show unhealthy granulations and frequently the wound reopens entirely.

The blood picture is sometimes difficult to interpret. The white cell count is low unless the primary condition influences it and this may cause a leucocytosis to persist for several days.

Plasmodia can be demonstrated as soon as the constitutional manifestations present themselves, though in some cases they are exceedingly difficult to find, requiring frequent and careful examinations.

In these chronic cases the parasites can seldom be found previous to the time of operation; some factor in connection with the operative procedure apparently activates them so that they appear in the circulating blood and cause symptoms.

The urine frequently shows large numbers of red blood cells. As the constitutional symp-

toms subside the blood disappears from the urine.

TREATMENT.

These cases respond to treatment promptly. The chief difficulty encountered lies in not recognizing the cause of the disturbance as due to malaria.

The treatment consists simply in treating the malaria. Quinine in some form is the drug of choice. The hydrochloride may be used intravenously. The sulphate, given by mouth, 20 to 30 grains daily for four days, causes symptoms to disappear and promotes marked improvement in the condition of the wound. The quinine should be continued for at least 30 days, 10 grains daily being sufficient.

For some unknown reason, quinine salts seem to be more effective if they are administered in conjunction with an acid, either dilute hydrochloric or dilute sulphuric.

If there is reason to suspect malaria in a patient who is to be operated upon, a few days of treatment previous to operation will prevent symptoms from arising during the post-operative convalescence.

CASE REPORT

H. D., American, aged 45, married, salesman, admitted to hospital July 21, 1927.

Complaint. Constant and severe pain in epigastrium and gallbladder region for the past five days. Similar attacks at varying intervals for twenty years. These attacks have gradually increased in frequency and severity. They are characterized by severe pain, localized in the epigastrium and especially over the gallbladder region, lasting from a few hours to several days, and relieved only by morphin. During attacks, the patient's wife believes that he becomes slightly yellow in color but there has never been a distinct icterus.

Physical examination. Entirely negative except the abdomen which shows considerable distention over the epigastrium and marked rigidity, most prominent over the right side. Temperature, 101° F., pulse 90.

Laboratory findings. Leucocyte count, 18,450. Urine, negative. X-ray revealed several large calculi in gallbladder.

Operation. The usual right rectus incision. Gallbladder surrounded and covered by unusually dense adhesions. Exposure of gallbladder very difficult. Gallbladder extremely tense, wall thickened, and cystic duct dilated and blocked by a number of large calculi. Because of patient's condition, the dense adhesions, and the difficulty of exposure, cholecystostomy and drainage seemed to be the procedure of choice.

The gallbladder contained dark bloody bile and mucous, with six calculi ranging in size from one and one-half to two and one-half cm. in diameter occupying the cystic duct down to the common duct. The stones were removed and drainage established.

Subsequent history. Drainage was profuse for several days, gradually improving in color. Drain was removed on the eighth day. On the tenth post-operative day the patient experienced a slight chilly

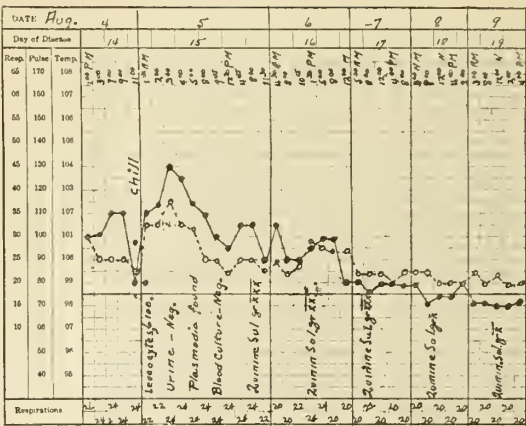
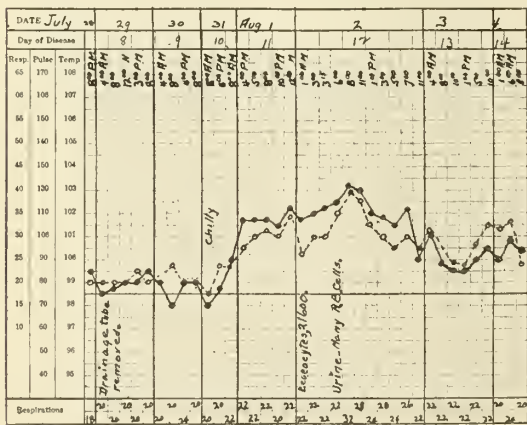
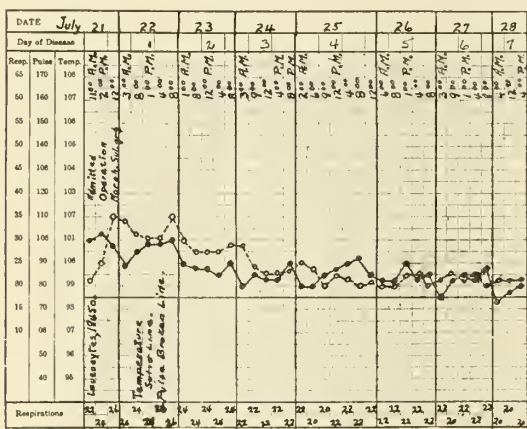
sensation and this was followed by an abrupt rise in temperature. On the eleventh and twelfth days, the urine was loaded with red blood cells and the leucocyte count was 21,600. There was slightly lower temperature on the thirteenth day, also the fourteenth day but at 11 p. m. on the fourteenth day the patient experienced a distinct chill followed by an abrupt rise of temperature to 104° F. Plasmodia were found in the blood the next morning. A blood culture was also made and this proved negative. The leucocyte count was only 6,100 and the urine findings were negative.

At this time the wound was draining a moderate amount of clear bile but the edges were gaping widely and there was little evidence of healing.

With the discovery of parasites in the blood, quinine sulphate was immediately started. The quinine was well tolerated. The patient received thirty grains the first day, twenty grains the second day and thirty grains again the third day. This was followed by ten grains daily for the next twenty-one days. Dilute hydrochloric acid was given with each dose of quinine.

The accompanying chart shows graphically the immediate improvement that took place following the ingestion of quinine.

Chart No. 1



COMMENT

Many individuals have chronic malaria and are not aware of it. These patients, if subjected to operation, are prone to have a stormy time during convalescence if malarial manifestations present themselves.

This condition occurs more frequently than is generally believed and probably is unrecognized in many instances.

Quinine therapy is efficacious and will cause prompt improvement in the patient's general condition, likewise in the condition of the wound.

In those cases where chronic malaria is suspected although not demonstrable a few days of quinine therapy previous to the operation will effectually prevent symptoms from arising during the convalescence.

1014 Missouri Bldg.

THYROIDECTOMY AND FACTORS INFLUENCING THE MORTALITY*

PREOPERATIVE CARE OF GOITER PATIENTS

LAWRENCE P. ENGEL, M.D.

KANSAS CITY, MO.

The mortality of thyroidectomy has been greatly reduced in recent years due to four factors: 1. Improvements in the operative technic and postoperative care. 2. The preoperative administration of Lugol's solution to patients with exophthalmic goiter. 3. The earlier recognition of thyrotoxicosis on the part of the physician and the earlier submission to operation on the part of the patient. 4. The more careful preparation of the patient and the recognition of the most opportune time for operation.

* Read at the 70th Annual Meeting of the Missouri State Medical Association, Sedalia, May 2-5, 1927.

Many refinements have developed in the operative technic. Better exposure and delivery of the gland have made possible a more careful ligation of the superior poles, the median veins, and other large vessels encountered during the resection, thus reducing to a minimum both operative and postoperative hemorrhage. The delivery of the goiter also lessens the possibility of overlooking a nodule or prolongation which frequently extends down behind the sternum. The use of local anesthesia, or a combination of local anesthesia and nitrous oxide or ethylene, has practically removed the danger of injury to the recurrent laryngeal nerves and has almost done away with surgical shock. The infiltration of the novocain solution also aids in establishing the proper line of cleavage so that the gland can be more easily delivered. The radical bilateral resection, and at times an almost complete bilateral lobectomy in the severely toxic cases, have reduced the postoperative reaction, for it has been shown that in such cases the greater the amount of gland left the greater the postoperative crisis will be. Among the advances in the postoperative care might be mentioned our clearer conception of the postoperative metabolic crisis and its treatment, the care of cardiac disturbances and the treatment of postoperative tetany.

Lugol's solution given before operation is the chief factor in reducing the mortality in exophthalmic goiter and has practically made ligations and multiple stage operations obsolete. It has converted many bad risks into operable cases, and has changed the postoperative picture from that of a stormy delirium to nearly that of a normal convalescence following any major operation.

Advances in our knowledge of the disease and in diagnostic methods have made the early diagnosis of thyrotoxicosis possible. It is true that there are still some cases in which the influence of the thyroid is not clearly understood, but diagnoses of heart disease, overwork, nervous breakdown, tuberculosis and change of life are no longer made on patients when the primary condition is that of toxic goiter. There is a great tendency for goiters of long standing to become toxic during the menopause and the nervous symptoms produced are frequently attributed to the menopause. How often a patient with a very toxic goiter gives the history that it was first noticed 10, 20 or 30 years ago but that her physician told her it would probably never cause any trouble. Today such advice is not given for it is generally agreed that all enlargements of the thyroid are pathological and should receive attention. Aside from the simple adolescent

goiters, and the slight diffuse enlargements occurring in childhood and during pregnancy, there is in my opinion no such thing as a strictly nontoxic goiter, and even in many of these which I have excluded, symptoms of mild thyrotoxicosis can be elicited on careful questioning. This view is based on two facts: (1) Visceral changes occurring in old patients who have harbored a so-called nontoxic goiter for many years. The damage is very slow but will eventually leave its marks. (2) Patients who are operated upon for cosmetic reasons only, feel better after the operation and are able to recall vague indefinite symptoms that were formerly present but which have disappeared since the operation. When the history was originally taken there were no symptoms or signs suggestive of thyrotoxicosis, and the metabolic rate was normal. Several months after the operation they insist that they feel better in a general way. They have more energy, require less sleep, feel better in the morning, and are conscious of greater nervous and mental relaxation. There are many other mild, vague symptoms which disappear with the removal of the goiter. Some of the most common of these are, fatigue, mild restlessness, at times insomnia, headache, dysmenorrhea, indefinite symptoms referable to the heart, slight intermittent joint or muscle pains and digestive disturbances. There may be gastric hyperacidity and a condition which the patient usually describes as "biliousness." These symptoms are so mild that no significance is attached to them and they are therefore not mentioned in the history and do not come to light until after the operation. If these patients with supposedly nontoxic goiters are questioned very carefully in regard to these vague, indefinite symptoms, one is struck with the number which can be elicited. It is extremely interesting to watch them disappear following thyroidectomy. These facts, I believe, will justify the conclusion that a nontoxic goiter, other than those which I have excluded, does not exist.

The fact that patients present themselves earlier for operation is due to the decrease in operative mortality and to the fact that they know some one who has been successfully operated upon. The very large goiters are already practically a curiosity.

This brings the discussion up to the fourth factor in the reduction of the mortality of thyroidectomy. This is the careful preoperative preparation of the patient and the recognition of the opportune time for operation. The presence of a toxic goiter is no longer an indication for immediate surgical intervention. Formerly this was true to a great extent and

patients, who were believed unable to go through a complete thyroidectomy safely, were subjected to ligations and multiple stage operations which often resulted fatally. If these severely toxic cases are carefully treated and operation deferred until they are in the best possible condition, and the goiter itself is in the resting stage, thyroidectomy can in most instances be safely performed in one stage.

There are many classifications of goiter; nearly as many as there are students of the disease. Much discussion has arisen over the adenomata, some holding that the term is a misnomer in the strictest meaning of the word. Some classify all toxic goiters as hyperplastic goiters, and it is true that whenever toxic symptoms are present hypertrophy and hyperplasia of the thyroid parenchyma can always be demonstrated. In the thyroid clinic at the Johns Hopkins Hospital all goiters are classified as diffuse or nodular, with or without hyperthyroidism.

From the surgical standpoint, the very toxic goiters fall into three distinct groups and will be so classified here. 1. Exophthalmic goiter. 2. Toxic adenoma of the thyroid. 3. Secondary toxic colloid goiter. This third group is composed of the old colloid goiters which are carried through from adolescence, become nodular and cystic, and in later life, very often at the menopause, produce symptoms of thyrotoxicosis. Areas of degeneration and changes in the colloid are demonstrable in this type.

There are some important facts regarding thyroidectomy in the very toxic cases. The younger the patient the better the surgical risk. The longer the duration of toxic symptoms the greater the surgical risk. This is because of the visceral changes which have taken place, and particularly the damage to the myocardium. Cardiac arrhythmias and signs of cardiac decompensation increase the risk. All toxic cases past 50 years of age should be regarded as questionable risks.

Toxic goiters of all types show a strong tendency toward crises and remissions. This occurs most frequently and to the greatest degree in the exophthalmic type, less so in the toxic adenoma and usually to the slightest extent in the secondary toxic colloid. Thyrotoxic symptoms developing in an old colloid goiter appear to be due largely to a degenerative process and once this has started it tends to progress with very slight if any remission. As a rule, these cases are the poorest surgical risks. The operative mortality is greatest when thyroidectomy is done during a crisis or when the patient is approaching one, and is at a minimum during a remission. It is obvious then that the best time for operation

is during a remission, and this stage must be patiently awaited by both the surgeon and the patient even though it requires several months. The symptoms are, of course, most marked and are increasing in severity when the patient is headed toward a crisis and too often it is not until this time that they seek relief. For this reason, many patients are in the worst possible stage for operation when they first present themselves and must be carefully carried along until the crisis subsides. It is during this "waiting stage" that much can be done to hasten the remission. This remission varies greatly in degree. In some of the exophthalmic cases the patient may feel almost well between crises, while in the old adenomatous or colloid goiters the remission is marked by only a slight abatement of symptoms. There are comparatively a few acute, fulminating cases which do not quiet down and progress rapidly to a fatal termination. In these the surgeon can find consolation in knowing that had he operated the outcome would in all probability have been the same but considerably hastened.

The recognition of a remission is not always easy but a careful history and physical examination will usually give the desired information. The history should contain accurate data as to the duration of the goiter, the time of onset of toxic symptoms and an inquiry into the rise and fall of symptoms. The weight is quite a reliable index to the rate of metabolism and variations should be recorded giving the maximum, minimum and present weight. The patient should always be questioned as to how she feels at the present time as compared with how she felt a few weeks or months ago. If all the symptoms are worse and she is still losing weight she is either in the crisis or approaching it. If, on the other hand, the symptoms are improving and there has been some gain in weight, she is approaching the remission. When the symptoms are stationary for a long time it is more difficult to obtain information from the history. In this case, if the symptoms are described as the worst the patient has ever had it is probably a prolonged crisis. If, however, there is a positive history of greater severity in the past, the patient is in all probability as near a remission as she will ever be without treatment or operation.

In the examination the degree of the usual signs, such as tachycardia, tremor, exophthalmos, will determine to a great extent the degree of thyrotoxicosis. Evidence of visceral damage should be looked for and the condition of the heart estimated as nearly as possible. A single metabolic rate determination will help establish the degree of toxicity at that particular time, but a series of readings taken at

intervals of several days or a week is necessary to determine what stage the patient is in as regards the thyroid crisis. A steady increase in weight with a decrease in the pulse rate and an improvement in the nervous symptoms are the best signs of an approaching remission.

When it has been decided that it is best not to operate at once the patient is then told that a certain amount of preparation is necessary in order for her to be in the best possible condition. This bit of information is often interpreted as meaning that the operation is a very dangerous procedure and she will begin to worry about it. A tactful explanation will do much to allay her fears and gain her confidence and in a few days, when she begins to improve under treatment, she will immediately see the value of it and cease to worry. Complete physical and mental rest is essential and all physical exertion should be graduated, depending upon the condition of the heart. All nervous strain must be avoided and nothing is allowed to excite the patient. Some variation is necessary depending upon the individual case. Some must be treated in the hospital and others in the home. Some improve more quickly with almost constant companionship with friends or relatives, while in others it is necessary to isolate them from such surroundings. These variations and the individual demands of a case can be determined after a few days of observation. Sedatives are of great value and must sometimes be administered generously. If bromides fail, luminal is given in $\frac{1}{2}$ grain doses 3 or 4 times a day. If there is sleeplessness on this dosage, a large dose may be given at bedtime. Forced feeding is always the rule, especially in those patients who have lost a great deal of weight. This is easy when the patient has a good appetite and at times a voracious appetite is a prominent symptom of the disease. If the appetite is poor, a bitter tonic, not containing strychnine, may be given. The diet should be rich in carbohydrates and supplementary feedings of egg-nog, malted milk, orangeade or lemonade with lactose added, or any of the foods and drinks of high caloric content may be given between the regular meals. Under rest and sedatives, and as the patient's general condition improves, the heart will slow down and regain its tone. The statement has often been made that digitalis is of no value in the goiter heart. This may be true in the acute exophthalmic goiter of short duration where the heart condition is merely a tachycardia, and in this type of case digitalis may actually be harmful. It is of definite benefit in the long standing cases in which there is often an auric-

ular fibrillation and signs of cardiac decompensation. A cardiac lesion which existed prior to the onset of the thyrotoxicosis is also an indication for its use. All cases of long duration, particularly those past 50 years of age should be digitalized prior to operation. If this is done, a minimum amount of cardiac disturbance occurs following operation, and when auricular fibrillation develops, symptoms of decompensation are not so likely to appear. It also makes possible the administration of quinidine if this becomes necessary.

Lugol's solution is now indispensable in the preparation of the true exophthalmic goiter patient for operation. In nearly all of the toxic adenomatous and colloid goiters Lugol's solution aggravates the condition, sometimes to an alarming degree. In a few of these where an active hyperplasia is present, evidenced clinically by a sudden onset of toxic symptoms, Lugol's solution may be of benefit but should be given very cautiously. It has been proven that in doses of 10 min. three times a day, the maximum beneficial effect of Lugol's solution is obtained within two weeks and in most cases within one week. It will produce an artificial or a so-called "iodin remission." It is much better, however, to wait until the patient is in a natural remission and then give the Lugol's solution for two weeks prior to the operation. The objection to giving it too soon is that the patient will be ready for operation before the goiter is, and at operation the gland will be found to be very friable and vascular and tightly adherent so that a careful resection is very difficult. Another point to be considered is that after one or at the most two iodine remissions, subsequent crises do not yield to iodine therapy and may even be made worse by it. As our knowledge of the life history of the toxic goiter increases, the value of careful preoperative treatment and the value of waiting for the proper time for operation become more and more apparent. By giving more attention to these two factors the end results will be better and the mortality rate will be lower.

1316 Rialto Bldg.

FOREIGN BODIES IN THE FOOD AND AIR PASSAGES

D. L. SHUMATE, M.D.

AND

W. BYRON BLACK, M.D.

KANSAS CITY, MO.

During 15 years experience, dealing with hundreds of foreign bodies in the trachea, bronchi and esophagus, we have seen endoscopy

develop from a very crude and dangerous work to almost an exact science.

Today most patients can be handled with a good assurance of success provided the case is referred for treatment before marked infection ensues. Infection often becomes more important than the foreign body and, in general, the sooner a foreign body is removed the better the prognosis. As a rule, general practitioners are first consulted when a child has a sudden attack of choking or strangling and it is important that all be well versed in the accepted methods of procedure.

When it is suspected that a foreign body has lodged in the esophagus, trachea or bronchus, an exact knowledge of what to do and how to do it is vital. Indecision, delay or improper handling may result in the death of the

down, hoping the substance will be expelled. Sometimes this occurs, but if it has already been sucked down into the trachea the procedure seldom is successful.

Friends or parents will often put a finger into the throat, feel the foreign body lodged in the pharynx and in their frantic efforts to remove it, push it farther down. It is to be remembered that a foreign body in the throat should be removed by sight, not by touch. It is very easy to do damage to the soft tissues of the throat by such practices and also very easy to push the foreign body farther down.

If the foreign body cannot be seen by inspection and the child is suffering, it is permissible to give a hypodermic of morphin and atropin suitable to the age of the patient. Practically nothing more should be done. To give food with the hope of pushing a body through the esophagus into the stomach might lead to serious damage.

The parents should be told of the behavior of foreign bodies in general. Lung tissue tolerates metallic substances far better than some others and seldom shows early serious complications. It is common for a metallic substance to lodge in a bronchus and not produce serious trouble for weeks or months. Then the secondary infection incident to ulceration may give rise to a lung abscess, pneumonia or emphysema. Often the symptoms of such complication develop slowly and the case be wrongly diagnosed as tuberculosis or something else.

Vegetable substances, such as corn, peas, beans, peanuts, burrs, are much more dangerous than metals because they will soon begin to swell and a partial bronchial occlusion become a complete one. Most foreign bodies drawn into the trachea will, if small enough, be drawn into the right main bronchus because it makes almost a direct line with the trachea. The point of lodgment will depend somewhat upon the size, form and surface. Smooth, round bodies usually lodge in the smallest bronchus that will admit them, stopping at a bifurcation, or rather the point of origin or a lateral branch.

Pins, tacks and nails are prone to drop head down into a small bronchus.¹ Safety pins, unless closed, rarely get into the air passages.

The next step is to proceed in an orderly manner with a complete history and physical examination.

History. Children are prone to give histories that are totally unreliable. Fear of punishment may cause the child to deny having any unusual substance in the mouth. Often the child is too young to give a good history; often it is too sick. All the facts should be elicited as soon as possible, and especially a

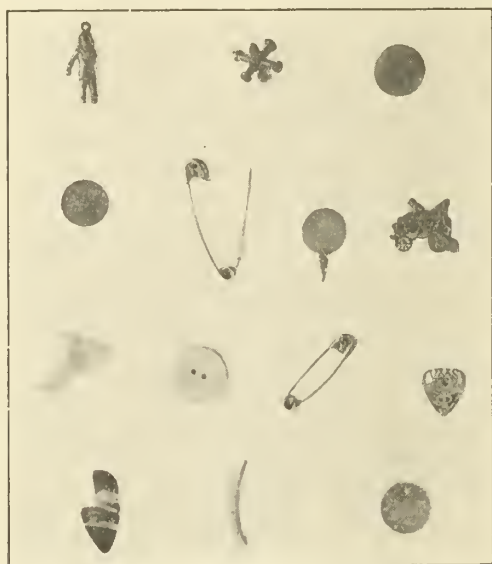


Fig. 1. Some of the common foreign bodies found in the esophagus: Metal man, jack, water wagon, badges, tobacco tags, coins, large safety pins, mandolin pick, bones and buttons.

child, or allow edema or infection to occur which may cause the death of the child when prompt, accurate treatment would have cured.

Fortunately, immediate death is a very rare occurrence. The principal service of the physician is often to allay the fears of the parents. A child may appear to be choking to death, become cyanosed, even moribund, but seldom dies. The struggles of the child often lead to exhaustion which is followed by muscular relaxation. This may permit the foreign body, which has lodged in the larynx or trachea, almost occluding the passage, to be sucked down into a bronchus or be coughed out.

The generally accepted or at least the permissible procedure is to hold the child upside

statement from the parents as to the child's previous habits of playing with small objects.

The history of a sudden onset of choking, dyspnea, cyanosis and coughing is of course most important and often all that can be obtained.

Examination. A careful inspection of the throat and pharynx is important. Many times a substance will lodge within view and can be removed with a long forceps. This examination should be made in a good light and the foreign body, if present, removed under direct inspection.

If no foreign body is seen and the history and symptoms suggest the presence of one farther down, a physical examination of the chest should be made. If the substance has completely occluded a bronchus there will be absence of breath sounds over its area of distribution. The involved area may be one lobe or an entire lung, depending upon the location of the substance and its size.

An X-ray examination should be made as soon as possible, bearing in mind that only those substances will show which are more dense than the fleshy parts. For example, all metallic substances will show clearly, vegetable substances will not. A negative result should not preclude the presence of a foreign body for the reason mentioned. If a foreign body is found its location should be determined if possible, making use of the physical findings and radiographs taken from various angles.

Foreign bodies lodging in the esophagus will usually be seen at one of the normally narrowed portions: (1) the cricoid cartilage at a level of the larynx; (2) the narrowed tortuous portion at a level of the aortic arch; (3) the cardia. As a rule, any substance passing the cricoid narrowing will enter the stomach if there is no abnormal constriction farther down.

Foreign bodies in the air passages will lodge at various points, depending upon the size, shape, weight and surface. They may be found high up in the trachea or as low down as their size permits.

The treatment of a foreign body in the esophagus or air passages is, of course, to remove it. This requires special instruments and special training. Speed and dexterity develop in direct ratio to one's experience.

The kind of instruments used and the technique are described in detail in the writings of the various experts. Every case is a law unto itself and only considerable familiarity with the subject will point the way in a particular case. Suffice it to say that we use the instruments and follow the technique of Chevalier Jackson and believe they are the best.

Prompt, definite action on the part of the general practitioner is essential in every case. All should bear in mind the frequency of such accidents and inquire very carefully into the origin and nature of every chronic cough, regardless of whether or not a history of acute onset is given.

Often after the first paroxysm of coughing the child may present no further symptoms for weeks and then some serious complication or sequela develops. This is particularly true of metallic substances. The examination may then disclose a previously unsuspected foreign body and the patient be the victim of pneumonia, empyema, lung abscess or bronchial stenosis.

The following brief case histories will illustrate the kind of foreign bodies most commonly

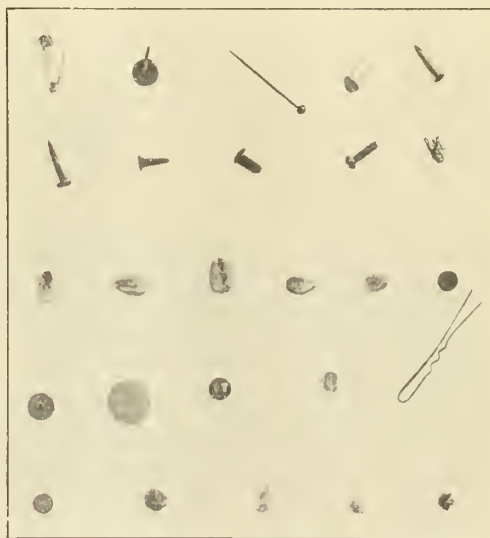


Fig. 2. A few of the foreign bodies found in the bronchi: Safety pins, tacks, pins, paper clips, small nails, screws, wire, beans, seeds, hair pins, small pieces of metal, coins, brass, rock, beads, teeth and sand burr.

encountered, the symptomatology, complications, sequelae, the method of removal and the end results.

REPORT OF CASES

Charles J. March, 1912, aged four years, referred by Dr. F. Belton, Mo. Grain of corn in right bronchus. The Doctor telephoned us to be at hospital as the child was having paroxysms of dyspnea, and looked as though he might die in the automobile on the way to the hospital, a distance of twenty miles. We removed the grain through a 5 mm. bronchoscope. Corn in bronchus four hours, operation requiring not more than ten minutes. Child had no trouble, except slight hoarseness next day.

Mary A. August, 1913, eighteen months old, referred by Dr. C. S. M. The child vomited solid food for six months. She could swallow liquids, but solid food was vomited or never reached the stomach. She was treated for indigestion, brain

fever and about everything imaginable before coming to Dr. M. He asked us to make an esophageal examination. We found a common trouser button in the esophagus near the cardiac end of the stomach. It was covered with small polyps, and we thought at first we had a malignant growth to deal with, but after pulling off two or three of them we turned up the button and removed it. Recovery was speedy and complete.

Robert C. December, 1915, two years old, inhaled a grain of corn on Sunday and was referred on the following Wednesday by Dr. L., of Excelsior Springs, Mo. Grain in the right bronchus. We removed the foreign body in our office through a 5 mm. bronchoscope. The baby returned home the same day.

Baby. May, 1915, aged four years, referred by Dr. H. H. History of having inhaled a bean four days previously. X-ray examination negative, but clinically the bean was found to be lodged in the right bronchus, excluding the air from lower lobe. While waiting in the office for preparation for operation, he coughed the bean into the trachea. The nurse carried him into the operation room, black and in a dying condition. We started to do a tracheotomy, but changed and forced a 5 mm. bronchoscope into the trachea, and the bean was pushed back into the bronchus. Artificial respiration was then carried on until he was resuscitated again, when we removed the bean. No anesthetic was employed. The boy was well in a few days.

Baby W. July, 1915, thirteen months old, referred by Dr. J. W. P. Three days previously the baby had fallen and knocked out the left lateral incisor tooth. The symptoms indicated that the tooth had lodged in the left bronchus. The first attempt at removal failed to locate the tooth, but five days later we succeeded in recovering it through a 4 mm. bronchoscope. The baby quickly recovered and in a few days was well.

Baby Irene. February 4, 1916, age two years and three months, referred by Dr. C., of Harrisonville, Mo. Gave history of inhaling grain of corn the day before. By clinical examination corn was found to be in the right bronchus. Removed in the office under general anesthetic. Patient returned home the same day.

Master H. March 12, 1916, at 4:30 p. m., inhaled grain of corn. This child, seven years of age, was sent to school next day as usual. Returned home at noon very sick and was taken to Moberly to Dr. C., who sent him to Kansas City, and about 12 o'clock the night of the 13th of March we removed the corn from the left bronchus. The boy was quite sick for two days, but cleared up after that, and returned home on the 19th quite well.

Helen R. April 16, 1927, two and one half years old, Galt, Mo. Referred by Dr. E. C. W. Aspirated a grain of parched corn into trachea while crying; 18 hours later she was brought to Kansas City. She was very cyanosed when she reached the office. The corn was removed without an anesthetic. Baby was given artificial respiration. She returned home the following day.

Baby G. June 19, 1927, referred by Dr. M., Modoc, Kansas. Baby was playing with nickel in its mouth and the coin became lodged in the esophagus some 3 days previous. This was removed by the esophagoscope in a very few minutes. The baby was taken home the same afternoon.

Miss Edna M. June 24, 1927, referred by Dr. B., Chillicothe, Mo. One week before the patient had several hair pins in her mouth and had a coughing attack which caused her a great deal of distress. At this time she called the Doctor on

the telephone telling him that she thought she possibly swallowed the hair pin. He advised her to come into his office. She did not do this because after the first attack she had very little discomfort, just slight coughing at times. Several days later she went to the Doctor's office on another matter and while there she had a coughing attack. The Doctor asked her about the previous attack and he had a radiograph made which showed the hair pin in the right bronchus. The case was referred to us and we removed the pin without difficulty. She returned home the same day.

Dick O'B. July 6, 1927, aged 3 years, referred by Dr. O., Kansas City, Mo. Some three or four days before the boy had a small screw in his mouth which his mother thought he had swallowed. He had very little coughing and no distress at this time. The family physician was called; he advised that the stool be watched and wait a few days. The following day the boy had a slight cough and the mother called the family physician again and he advised that an X-ray be taken. The screw was found in the right bronchus and was removed under a general anesthetic.

500 Argyle Bldg.

THE SIGNIFICANCE OF THE URETERAL KINK*

A CLINICAL AND EXPERIMENTAL STUDY

CLINTON K. SMITH, M.D.

AND

NELS F. OCKERBLAD, M.D.

KANSAS CITY, MO.

In dealing with any mechanical derangement of physiology it becomes necessary, first, to understand the nature of the mechanical defect, and, second, to ascertain the factors which produce or maintain it.

CLINICAL CONSIDERATIONS

It is just such a situation that confronts us in cases of ureteral colic. The clinical picture of this syndrome is an old and familiar one. In order to understand the nature of the physiological upset in these cases, we must retrace our steps and recall that the ureter is a muscular tube whose function is to conduct the urine from the kidney to the bladder. This is accomplished by a series of peristaltic waves, which begin at the renal pelvis (which in reality belongs to the ureter) and propels the urine onward to the bladder. With the onset of ureteral colic we have every reason to believe that violent spasmodic contraction of the musculature occurs. As to the probable cause or causes of this phenomenon there still remains considerable uncertainty. It is common knowledge that the passing of a ureteral

* From the Department of Urology, University of Kansas School of Medicine.

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stone is associated with colic-like pain and the generally accepted view is that the pain is a result of blocking of the ureter by the stone. Nevertheless, the same clinical picture occurs when no stone is present and, furthermore, it

has heretofore enjoyed much popularity. During recent years, however, this operation has been largely abandoned owing to the fact that subsequent clinical observation has recorded that after the operation the symptoms often persist or recur.

It is this kinking or knuckling of the ureter which we particularly wish to discuss in this paper, and it is our opinion that in almost every instance the kink of itself is not the cause, but only a by-product of the underlying factor producing the colic, namely, obstruction of the ureter below. This opinion is abundantly substantiated by clinical observation in numerous cases showing kinks with demonstrable obstruction of the ureter below to which we have applied judicious ureteral dilatation. With few exceptions, dilatation of the constriction has solved the problem, leaving the kink to its own devices.

It is well known that many loose kidneys which permit ample opportunity for kinking of the ureter, some of them sufficiently mobile to reach below the pelvic brim, produce no symptoms and are discovered only accidentally during a general physical examination.



Fig. 1. Stricture of left ureter near bladder. General dilatation of ureter above with kinking in upper third. Complained of frequent and painful urination with intermittent colic like pain in midouter abdomen. Complete relief after dilating ureter at bladder outlet to 14 F.

occurs in certain instances where the caliber of the ureter is above normal in every part. With this situation, then, the proposition is open to speculation as to just what instigates the spasm. Hunner¹ has repeatedly demonstrated that this symptom is common with ureteral stricture. Perhaps in certain instances it is precipitated by regurgitation of urine from the bladder. That this does occur with a certain degree of vesical tension has been shown by Davidoff and Graves², and furthermore, in this connection Bransford Lewis³ has pointed out that stricture of the urethra or bladder neck obstruction alone is productive of ureteral colic.

Whatever may be the underlying factor producing the situation, one outstanding and apparently constant condition prevails, and that is, interference with the normal passage of the urine from the kidney to the bladder.

With the exception of calculus, kinking or knuckling of the ureter has long been the popular explanation of ureteral colic. In Dietl's crisis the ureter was supposed to have become kinked as a result of a loose kidney which permitted knuckling. Accordingly, nephropexy (anchoring of the loose kidney)

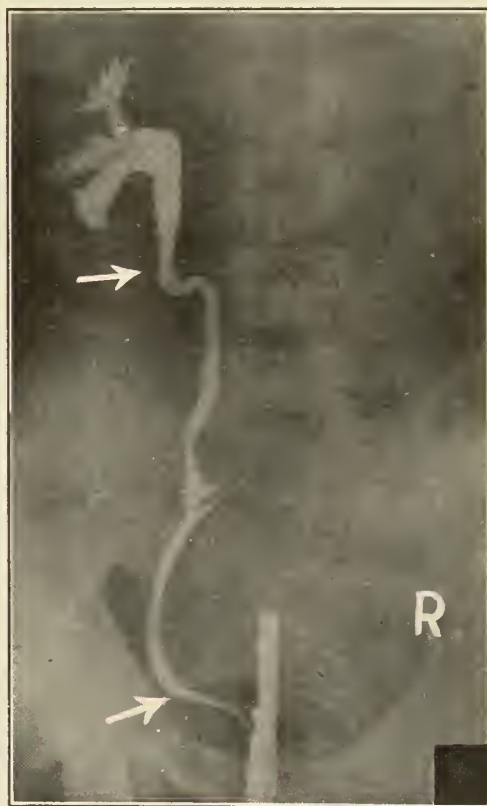


Fig. 2. Stricture of left ureter at bladder outlet. General dilatation of ureter above with kinking in upper third. Complained of intermittent dull pain in the midouter abdomen with hematuria. Complete relief after dilating ureter at bladder outlet to 12 F.

The results of certain experimental work on dogs further confirms our opinion that the principal underlying factor in the production of kinks is obstruction of the ureter. Furthermore, the development of aberrant vessels



Fig. 3. Stricture of ureter at iliac crossing with double kinking of ureter near kidney pelvis. Complained of periodic colic like pain in lower abdominal quadrant and in upper loin. Complete relief after dilating lower ureter to 14 F.

and fibrous bands in several instances of this experimental study, indicates that in those cases in the human which do not respond to ureteral dilatation, the similar fixing bands are probably responsible. It is in this small percentage of the cases that nephrotomy and fixation are indicated.

Our experiments show conclusively that sagging of the kidney is not an essential feature in the development of ureteral kinks. As will be shown presently, blocking the ureter sufficiently to produce tension above results in lengthening, knuckling and kinking of the ureter without change in the position of the kidney. In other words, we were able to produce experimentally, by partially obstructing the ureter, essentially the same knuckling and kinking noted in those humans suffering from ureteral colic. (Fig. 6.)

It may be contended, where kinking is present without stricture formation that the kink-

ing is responsible for colic-like attacks of pain. A study of our cases has shown that typical ureteral colic and pain often occur in a large dilated ureter where stricture or kinking can not be demonstrated. Undoubtedly, the blocking is due to spasm, very likely involving the fixed or pelvic ureter. There is every reason to presume that such spasm can produce periodical or even persistent blocking of the ureter without stricture, which results in dilatation, distortion and kinking of the ureter. This position is entirely tenable when we recall that the innervation of the ureter is derived from the sympathetic nervous system while that of the bladder trigone, whose muscle bundles extend upward on the ureter, is derived from the parasympathetic; and further, that the nerve impulses or reactions of these two involuntary nerve controls produce physiological effects, one opposing the other; in other words, the one relaxing, the other contracting. In this connection, it can be seen that a peristaltic wave descending the ureter meeting a spastic ureteral outlet (a result of derangement of parasympathetic nerve control, which should induce a relaxation at that point at that particular moment) would be laboring under the same difficulty as if the ureter were blocked by stone or stricture.

It is not unusual to find that the side showing no kinking is the site of colic, in contrast to the side showing the kink, as in Fig.



Fig. 4. General dilatation of both ureters and distortion of both kidney pelvises. No demonstrable obstruction in either ureter to the passage of a No. 14 F. catheter. Complained of repeated attacks of severe colic like pain in lower right abdominal quadrant and right loin. No. 14 French catheter passed at intervals of one to six weeks for period of one year. No recurrence of pain past four years. Note kinking upper third of left ureter. No history of pain on that side.

4. In this instance, the patient had frequent attacks of violent pain on the right but no history of pain on the left, which side showed a well developed kink. The passing of large caliber catheters such as No. 12 to 16 French, relieves clinical symptoms in these cases.

Our clinical experience warrants the position that, in every case, the simple procedure of dilating the ureter to a large caliber should be tried before the more hazardous kidney fixation is undertaken, inasmuch as the symptoms are relieved in almost every instance. In the few cases in which dilatation does not afford relief, kidney suspension may then be considered. Undoubtedly, the improvement in general health and the clearing of kidney infection noted in some cases after fixation are due to correction of circulatory embarrassment incident to dragging on the pedicle.

EXPERIMENTAL STUDY

Fourteen dogs were used in our study. Experiments of completely tying off the ureter have been done repeatedly and the results, which are well known, show that all renal function and action cease immediately and atrophy begins. We conceived the idea of placing about the ureter a piece of split rubber tubing (Fig. 5).

The ureter was exposed at various levels by the extraperitoneal route and the prepared tubing placed about it, with just sufficient compression to produce embarrassment but not occlusion. Our plan was to reproduce as nearly as possible conditions analogous to those humans suffering with ureteral pain. The dogs were sacrificed in from 3 to 6 months, the ureters and kidneys studied in situ, and after removal. The specimens were carefully reviewed with special reference to the changes that had taken place in the ureter and the kidney pelvis.

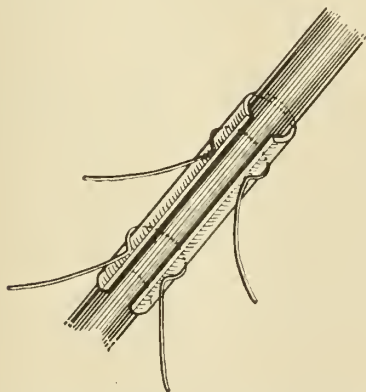


Fig. 5. Split rubber tubing placed about dog's ureter and secured by silk ties. Sufficient compression to embarrass but not occlude ureter.

Our observations were striking in several ways. We were amazed at the rapid and apparently permanent dilatation that had taken place in the ureter and in the kidney pelvis, not-

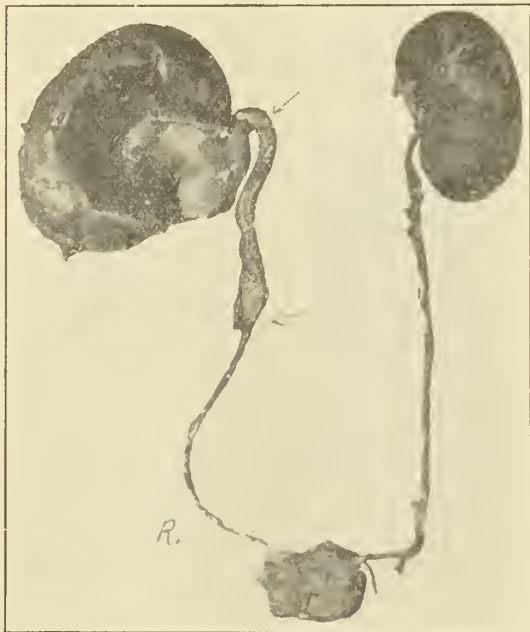


Fig. 6. Partial obstruction of ureter in dog produced by placing split rubber tubing about ureter, 11 cm. below kidney. Note dilatation, elongation and kinking of ureter above. Also large dilated kidney. 4 months duration.

withstanding indisputable evidence that urine was passing through the obstruction. We saw kinks develop as it were under our very eyes. We saw seemingly normal blood vessels leading to or from a kidney become aberrant vessels in a short time because of a marked change not only in the size of the kidney and its pelvis, but in its position as well. The tortuosities were curiously covered with fibrous bands derived partly from the peritoneum and partly from the fibrous covering of the ureter, but they served to bind the ureter in its new and abnormal position. These tortuosities and kinks obviously did not result from the descent of a greatly enlarged and congested kidney because in dogs gravity has no great influence, the pull being rather forward. We found on the contrary that the upper pole of the kidney on the obstructed side was often several cm. higher than its fellow of the opposite side. There was also a definite lengthening of the ureter of several cm. together with a tendency for the tortuous and kinked ureter to place itself nearer the midline. (Fig. 6.)

There was complete absence of infection, except in one case where the dog died of a perinephritic abscess which also surrounded the

liver and originated from the split tubing placed on the ureter. In one of the early cases we unintentionally completely obstructed the ureter, tying about it only a silk ligature, with resulting atrophy of the kidney, its pelvis and ureter. (Fig. 7.) The contrast between this specimen and the one where only partial obstruction was established (Fig. 6) is apparent.



Fig. 7. Complete obstruction of ureter in dog, 3 cm. below kidney. Note marked atrophy of kidney on right with compensatory enlargement of left. Duration 3 months.

SUMMARY

1. Ureteral colic is caused by an unnatural spasmodic contraction of the ureteral musculature.

2. It is directly a result of over distension within the ureter, due to obstruction.

3. Obstruction is known to be a result of several conditions; stone, stricture, and in all probability spasm of the ureteral outlet.

4. The ureteral kink has long been a popular explanation as the cause of uretral colic in certain cases. In our experience with dilating ureters in the treatment of stricture, we have been impressed with the fact that in almost every instance in which kinks were noted, the symptoms were relieved by dilatating the stricture in the lower part of the ureter, leaving the kink to its own devices.

5. These observations have led us to conclude that the kink has very little if any part in

the production of uretral colic, that it is a byproduct of obstruction of the lower ureter, which is the real factor responsible for the colic.

6. With this idea in mind, experiments of partially obstructing the ureter in dogs were carried out. The results have indicated conclusively that such obstruction is productive of anatomical changes which simulate with astonishing similarity the kinks and knucklings seen in the human.

7. It therefore seems conclusive that this clinical and experimental evidence indicates that we must look for obstruction below the kink to solve the problem of ureteral and renal pain in these cases.

806 Rialto Building.
1025 Argyle Building

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DISCUSSION

DR. NEIL S. MOORE, St. Louis: I have enjoyed this paper immensely. It has been very instructive, as Dr. Smith's papers always are. I agree with a great deal of what he has said concerning obstruction of the lower ureter as the cause of most pains in the kidney. With this idea in mind, a short time ago I devised a ureter opening incisor which operates by means of electricity. We have found in our work a number of cases where the obstruction was located at the ureter opening and enlargement of the opening was followed with relief.

However, we can not blame all of the symptoms that we encounter in the kidney to obstruction of the lower ureter. Dr. Smith mentioned something about extrarenal vessels. We have found at least one clinically in a woman who gave a history of symptoms of seven years duration. The only cause for the pyonephrosis that we could find was an extrarenal artery.

Another case was one troubled for possibly only a few months, and we found a definite kink. At operation we discovered that the kink was due to adhesions of the ureter to the lower pole of the kidney. This was probably the result of an old ureteritis.

The pictures that Dr. Smith has shown us of the dilated ureter and resulting kinks can be explained from the fact that as the ureter dilates it also increases in length. I believe Dr. Smith mentioned that.

The whole subject is very interesting and clears up the diagnosis of symptoms that we have been attributing to gallbladders, appendices and various other organs which heretofore have resulted in abdominal operations without relief.

I might add that the profession in general is usually of the impression that these patients are always anemic and emaciated, but we have found a number of them who were stout and very fleshy, with the same kink and the same misplacement of the kidney that we find in the emaciated individuals.

As to fixation of the kidney, we should go very carefully. The operation, as Dr. Smith said, is be-

ing abandoned. Still, a great many men believe in it very strongly. I have found a few cases where we were unable to get results through dilatation of the ureter, after first incising the ureter opening so that we could pass and retain catheters up to No. 13 French, for twenty four to forty eight hours, it has been necessary to fix the kidney. In each case we have had good results, but I think it is better to observe the case, dilate the ureter, incise the ureter opening, eliminate strictures, and try out first the more palliative measures.

DR. CLINTON K. SMITH, Kansas City, in closing: I believe Dr. McCallum and I are thinking about the same thing, except that he expresses it a little differently. I did not say that a kidney fixation never should be done. I think there are cases in which it is a good thing to do. There are also cases in which adhesions such as Dr. Moore spoke of form. We have found them forming and holding the ureters in a kinked position. We are certain that they were not there before. They occurred during the process of the experiment. Everybody is familiar with the end results. We know that the ureters are dilated and that they are kinked. We know that we get relief in a majority of the cases by passing large catheters, 12, 14 or 16 French. But we don't know what causes the obstruction. Hunner says it is due to focal infection and lets it go at that. So far, he has not been able to show any pathological researches which have proven his point, although his cases clinically have gotten well a good many times after focal infection has been eliminated; and so have mine. However, we are not yet clear on the relation of focal infection to the local ureteral pathology.

We have been able to produce pathology in animals by partially obstructing the ureters, which closely simulates the pathology we see in humans. We conclude that the partial obstruction of the ureter has something to do with it. How it becomes obstructed we don't know, and I don't think anybody knows.

I just mentioned incidentally the floating kidney. The point we are talking about is ureteral kinks. A general practitioner will bring a patient in and say, "Doctor, I believe this patient has a stone." We make a picture and find no stone shadow. Then he says, "Well, he must have a ureteral kink." That is the popular conception of ureteral colic—a kink. I don't think that the routine fixing or even the occasional fixing of a kidney showing a kink, with pain, is the thing to do without first dilating the ureter. It is a simple thing to do; it can be done in the office.

I do think that some of these patients have pain on account of the kidney dragging on the pedicle. In one case I showed, I am convinced that the man had a pathological condition from drag on his pedicle. Those cases get relief by fixation.

Going a little further back, earlier in life, we find more evidence of the beginning of these difficulties. In taking a history of a young woman in the early twenties who has bladder pain or ureteral colic, she will often remember that back in her childhood somebody was treating her for kidney trouble. What she probably had was bladder irritability incident to the development of ureteral pathology. If we will study children a little more carefully when they have bladder irritability and pus in the urine, I feel that we will find the beginning of a great many of these difficulties.

MASTOIDITIS IN INFANTS*

H. W. LYMAN, M.D.

ST. LOUIS

That infants and young children are especially susceptible to middle ear infections is generally recognized by the medical profession. This susceptibility may be explained by their low resistance to infections generally and to the fact that the eustachian tube in the infant is shorter and more open than in the adult. Infection of the middle ear may easily take place from the numerous acute upper respiratory infections to which children are subject and frequently may be caused by the act of coughing or vomiting.

Extension of middle ear infection to the mastoid antrum is not infrequent and the description given in the textbooks of mastoiditis in infants and children, in which a subperiosteal abscess behind the ear is a prominent symptom, is well recognized. It is not, however, so universally understood that the middle ear and antrum of an infant or small child may be the seat of an infection which does not present the typical symptoms described in the textbooks, but manifests itself chiefly in constitutional effects. While the recognition of this type of infection has not been general it is by no means new, for as far back as 1898 Hartmann called attention to the fact that infections in the middle ear in infants might be responsible for gastro-intestinal disturbances, and that paracentesis acted beneficially in these cases.

In 1921 Maurice Renaud, of Paris, after having performed autopsies on seventy infants who had died following diarrhea, vomiting and loss of weight (cholera infantum, or marasmus, if you will), found pus in the antra of all of these infants. He states that in thirty of these cases infection of the middle ear had been recognized during life but in forty of them it had been overlooked. Because of these findings he opened the mastoid antra of ten infants suffering from diarrhea, vomiting, and loss of weight, and found pus in the antra of all of them. He states that there was at least temporary improvement in all ten of the cases, but nine eventually succumbed and only one survived. He attributed the high death rate to the fact that these operations were not performed until the infant was in extremis, and believed that if the operations had been done earlier the percentage of recoveries would have been greater. When he presented these findings before the Academy of Medicine in Paris he encountered a storm of criticism.

* Read before the St. Louis Medical Society, March 15, 1927.

During the last few years there have been numerous reports in this country by Byfield, McDougal and Knauer, Floyd, Marriott, and others, of mastoiditis in infants acting as a focus of infection producing gastro-intestinal rather than otological symptoms. Probably the most intensive study of this problem has been carried on at the Medical Department of the University of Iowa and at the St. Louis Children's Hospital. In December, 1924 the writer called the attention of this society to the work which was being done at the St. Louis Children's Hospital by the departments of pediatrics and of otolaryngology under the direction of Dr. W. McKim Marriott.

In May, 1925, Dr. A. M. Alden and the writer presented a paper on this subject before the American Laryngological, Rhinological and Otological Society, based on a series of fifteen cases of infants suffering from loss of weight, diarrhea and vomiting, on whom mastoid drainage had been performed with eight recoveries and seven deaths. This work at the Children's Hospital has continued and in the last series of forty cases there were six deaths. We believe that this decrease in the death rate confirms the opinion advanced by Renaud that an earlier recognition of the condition and prompt operation greatly lower the mortality in this type of case.

A typical case in which an infection in the mastoid antrum causes gastro-intestinal symptoms presents the following clinical features:

TYPICAL CASE

There is usually a history of continued difficulty with the feeding and a failure of the infant to gain in weight. When the case becomes more thoroughly developed there is increased temperature of a septic type, running as high as 104 or 105, diarrhea, vomiting, rapid loss of weight and a drying out of the tissues. These symptoms are not relieved by any change of diet nor does the infant retain fluids, which may be given subcutaneously or intraperitoneally.

The ears, when examined, show either a purulent discharge or a red, bulging drum head which on incision releases pus or a serosanguinous fluid that may be ropy and tenacious. There is no swelling or tenderness discoverable over the mastoid antrum. If the loss of weight is extreme, the drum head may not be red and bulging but present a dirty, grayish appearance. We believe this peculiar appearance of the drum head is simply a manifestation of the general anhydremia or drying out of the tissues.

Because of the anatomical peculiarity of the infant's ear as compared with that of the adult, the bulging in the posterior superior part of the drum head is downward instead of outward, and simulates the sag of the superior canal wall, which is often seen in older patients with mastoiditis. However, its significance is identical with that of the sagging of

the canal wall; that is, it is caused by an infection in the antrum and upper portion of the tympanic cavity which cannot be drained through an incision in the drum head.

In some of these cases the gastro-intestinal symptoms subside after a free paracentesis, the infant retains its feedings and gains in weight. This improvement may continue and the case go on to recovery with no further surgical intervention except a repetition of the paracentesis if exacerbations of the gastro-intestinal symptoms recur.

In other cases the improvement is only temporary and a reexamination of the ear will show a return of the bulging of the drum head or the sag of the canal wall, which shows the drainage through the paracentesis incision is inadequate even though profuse. If repetition of the paracentesis is not followed by improvement of the gastro-intestinal symptoms, we believe that adequate drainage of the infection cannot be established through the tympanic membrane; the mastoid antrum should then also be opened and the infectious material removed from that cavity.

The reason that some of these cases recover after paracentesis while others require an opening of the mastoid antrum, is probably due to the anatomical structure of the infantile mastoid. At birth the tympanic cavity, the epitympanic space, and the mastoid antrum are filled with embryonal tissue which resembles granulation tissue in character. The absorption of this embryonal tissue begins in the lower part of the tympanic cavity and is not completed in the epitympanic space and the antrum until the end of the first or second year. In cases in which the infection is limited to the space in the lower part of the tympanic cavity, which is created by the absorption of the embryonal tissue, a paracentesis will afford adequate drainage for the elimination of the focus of infection and the case will go on to recovery. But if the infection invades the solid embryonal tissue, which still fills the epitympanic space and the antrum, adequate drainage cannot be obtained by incision of the tympanic membrane; then, unless the mastoid antrum is opened and the infected material removed, beneficial results cannot be expected.

It is possible that some of our cases would have recovered without a mastoid operation, but at present clinical observation of the progress of the disease is our best guide. The reduction of the rate of mortality from eighty-five per cent or more to twenty-five per cent justifies surgical intervention as soon as we are convinced that more conservative treatment is not accomplishing the desired result rather than to delay operation until the infant is moribund.

The favorable results obtained by opening the mastoid in these infants has led to a careful examination of the ears in infants who, while they did not present the alarming symptoms previously described, had more or less difficulty with their feedings—some gastro-intestinal disturbance—and failed to gain in weight no matter how the formulae were varied. In a number of these cases evidence of infection in the middle ear was found and, where it did not clear up after paracentesis, the mastoid antra were opened and found infected. After the operation these infants showed a gain in weight on the same formulae which had been used unsuccessfully prior to the opening of the antra.

Another important benefit which we believe is obtained by the early opening of the mastoid antra and clearing up of the ear infection in these infants, is the conservation of hearing. We know that long continued suppuration in the middle ear causes destruction and changes within the tympanic cavity that result in permanent and marked impairment of hearing.

The operation itself if carefully done is not a formidable procedure and we do not believe that any of the fatalities were due to or hastened by the surgical intervention. It is simply carrying out the sound, surgical principle of adequately draining a focus of infection. The operation is done under local anesthesia, one-half per cent novocain being injected in the skin behind the auricle and a deeper injection made beneath the periosteum overlying the antrum. The incision is about three-fourths of an inch in length, beginning at a level with the external auditory meatus and extending upward immediately behind the auricle. The periosteum anterior to the incision is elevated until the posterior and superior borders of the external auditory meatus are exposed. A button of bone immediately behind and above the external auditory meatus is removed with a hand gouge and the antrum is usually uncapped by this procedure. If it lies deeper, a small, oval curette is used to remove the cancellous bone until a satisfactory opening is obtained. The contents of the antrum are gently removed, a culture taken, and a rubber or gauze drain placed in the antrum. No sutures are required. The lips of the wound fall together and a dry dressing is held in place by the usual mastoid bandage.

The infection is usually bilateral and most of our cases in which only one antrum was opened have required subsequent operation on the opposite side.

The organism most frequently obtained by culture from the mastoid was a hemolytic

streptococcus, but the pneumococcus, staphylococcus and colon bacillus were found in some of the cases.

We do not for a moment desire to give the impression that all cases of gastro-intestinal disturbances in infants are due to infections in the ear, or that all ear infections cause gastro-intestinal symptoms, but we are firmly convinced that the cases here discussed form a distinct clinical entity and that their successful treatment is surgical rather than dietetic.

In conclusion, we wish to emphasize the fact that this is neither a pediatric nor an otologic problem solely, but one which requires for its solution the closest cooperation between the pediatricist and the otologist, and we urge that a careful examination of the ear, nose, and throat be made a part of the routine examination of infants.

700 Carleton Building.

PRENATAL, NATAL AND POST-NATAL CARE*

EDMUND LISSACK, M.D.

CONCORDIA, MO.

It will interest and perhaps startle you to know that over 25,000 women die in the United States every year from the direct and indirect effects of pregnancy and childbirth. It is safe to say that 50 per cent of women who have had children bear the marks of injury and will, sooner or later, suffer from them. Thousands of women enter our hospitals each year for the repair of injuries acquired during childbirth and seek relief from the diseases caused by childbearing.

Over 200,000 children are born dead or die in the first few weeks of their existence.

A certain portion of this misery is inevitable but a far greater portion is, fortunately, remediable. Careful observation of patients during pregnancy and the proper conduct of labor will considerably reduce the maternal and fetal mortality and morbidity.

The fact that a maternity case has its beginning at the time of conception and that it is very important for a pregnant woman to see a physician as soon as she knows she is pregnant should be strongly impressed upon the minds of the laymen.

When a maternity case presents itself there are certain fundamentals a physician should follow: First, it is essential that a good history be obtained, especially histories of certain illnesses, infections and particularly abdominal operations. In a multipara the past

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obstetrical history is important. A history of miscarriages, date of occurrence and other data will often be helpful.

Next a complete physical examination is in order. This includes, besides a vaginal examination, an examination of the heart, lungs, kidneys, digestive organs, teeth, tonsils, thyroid, blood pressure, weight and pelvic measurements. The external and internal pelvic measurements are of great importance.

The patient should return every four weeks up to the seventh month and every two weeks thereafter for examination so that we may observe, (1) any change in blood pressure; (2) gain in weight; (3) condition of the kidneys; (4) the state of general health. At these visits she should also be interrogated for symptoms of complications and appropriate advice given. From time to time an abdominal examination should be made and the fetal heart auscultated.

She should be instructed to report immediately if troubled with nausea, vomiting, hemorrhage, spots before the eyes, swelling of the legs, eyelids and hands, or if any decrease in the amount of urine is noticed.

Certain information should be given the patient on her first visit and this is best distributed in printed form. She should be instructed to dress properly so that there are no circular constrictions anywhere. If accustomed to wearing a corset this should be replaced by a light abdominal support after motion is felt. The nipples and breasts should be kept scrupulously clean and free from pressure. She should be told to regulate her diet as to eliminate as much meat and other protein as possible. A dentist should put her teeth in first class condition. She should drink an abundance of water and see that her bowels move daily. No cathartics should be taken without the advice of her physician. The urine should be examined regularly. A certain amount of exercise, especially walking, is essential. During the last three weeks no tub baths should be taken. Sexual intercourse should be restricted and during last six weeks absolutely forbidden. General bodily health is affected by worry and mental strain and therefore the expectant mother who is building the foundation of her baby's health upon her own should try to be serene, happy and cheerful. She needs to foster her strength not waste it. Sleep and rest are essential.

If a patient goes beyond term, she should be examined once a week after the expected date of confinement. Labor should be induced if the child is large.

When a woman goes into labor the best place for her is in a hospital. Unfortunately however most women are still confined at home.

A physician should always be prepared with both knowledge and instruments to deal with most obstetric complications and this with special reference to deliveries at home. An assistant or nurse is always desirable in home deliveries.

Asepsis and antisepsis are basic principles and in the home are difficult to carry out; but they can be practiced effectively. Rubber gloves are indispensable.

When called to attend a patient in labor a careful abdominal examination should be made to determine the presentation and position of the child and the fetal heart tones counted. Then the vulva should be shaved and the field prepared as for any surgical case. Under strict asepsis a vaginal examination is made to determine whether the head can enter the pelvis. If uncertain, the patient may be given the test of labor. If after a reasonable length of time it fails then interference is advisable. A disproportion or malposition must be recognized early, and should radical interference become necessary the same careful surgical technique must be used as when entering the peritoneal cavity.

The first stage is mostly one of watchful expectancy. When the pains are strong and delivery not expected for some time it is advisable to give morphine and scopolamine, especially in primipara. Nourishment, mostly in liquid form, should be given when desired. The bladder should be kept empty and the bowels open. Either or both if neglected may interfere with the progress of labor. It is always advisable to order an enema at the beginning of labor. The patient should not be permitted to bear down during the first stage. It is useless and her strength should be saved for the second stage. Throughout the first and second stages of labor we must watch for complications and be ready to deal with them.

The management of the third stage of labor is more important than usually realized for upon a proper conduct of this part of the delivery depends the woman's freedom from postpartum hemorrhage, the complete expulsion of the placenta, the smooth convalescence during the puerperium and even her health later in life.

The third stage is generally treated as follows: After the child is born the hand is placed on the fundus of the uterus but no massage given until signs of separation of the placenta appear. If after an hour the placenta does not separate, Crede's method is used. The bladder must be empty and the uterus well contracted. Never pull on the cord to deliver the placenta. After delivery of the placenta and membranes they should be inspected for missing parts. Ergot is given

as soon as the placenta is expressed. Very few cases of postpartum hemorrhages occur when this procedure is used. The perineum and vaginal outlet should be examined for evidence of lacerations, which should be repaired immediately.

Time should be taken to examine both the mother and the baby thoroughly and to give full directions for the care of both patients.

The instillation of silver nitrate into the baby's eyes should not be forgotten.

During the puerperium the patient must be watched for signs of infection. The diet should be regulated and the bowels and bladder kept empty. Castor oil is usually given on the morning of the second day. The breasts and nipples are watched and the latter kept clean. The uterus should be palpated and the lochia observed. After the third day postpartum moderate bed exercises may be practiced. The baby must be watched and especially its cord, eyes and mouth. Breast feeding should be insisted upon if at all possible. The patient should remain in bed at least ten days after delivery. She should not resume full activities until six weeks after delivery.

After eight weeks she should return for a final examination to see if involution has taken place, whether the uterus is retroverted or in normal position and observe the results of the perineal repair if any.

If this plan is followed many of the after effects of childbirth which interfere with the patient's future comfort can be averted and the present unnecessary high maternal and fetal mortality and morbidity reduced.

NASAL APPLICATION OF SOLUTION OF PITUITARY FOR OBSTETRIC PURPOSES

Under direct vision, with the aid of a nasal speculum and reflected light, a small pledget of cotton of such size as to fit easily but snugly between the septum and the inferior turbinate, and moistened with from 10 to 20 minims (0.60 to 1.25 cc.) of solution of pituitary is inserted under the anterior end of the inferior turbinate by J. Isfred Hofbauer, Baltimore (*Journal A. M. A.*, July 2, 1927). If the manipulation is gentle, the patient does not experience any appreciable discomfort, and in none of his cases was it necessary to resort to any kind of local anesthesia. Prior to the nasal application of solution of pituitary, the patient is prepared in the routine manner by a hot drink and castor oil and quinine by mouth, followed by a high enema. From two to three hours were then allowed to elapse before the administration of the first dose of solution of pituitary, in order to make sure that the preliminary treatment had not been sufficient to induce pains. Uterine contractions invariably follow within from three to five minutes after the nasal application. In the event that the first contraction lasts longer than four minutes, the pledget is withdrawn when the uterus relaxes within the next sixty or seventy seconds. If, however, tetanic

contraction does not occur during the first fifteen minutes, it is considered that all danger from such an accident has passed. Unless the first application has resulted in setting up satisfactory contractions, the pledget is withdrawn at the end of two hours, and a fresh one applied to the opposite nostril for a similar period of time. In the majority of cases, from one to three applications were required for a successful induction of labor, but in a very few cases as many as five doses were necessary. It is important to bear in mind that experience shows that in preeclamptic cases labor can be induced with the greatest ease, one application of solution of pituitary usually being sufficient; whereas greater difficulty is encountered in the nephritic cases, in which the response is definitely less pronounced. Hofbauer has employed the nasal method of inducing labor in seventy patients as follows: In toxemia, twenty-eight cases; postmaturity, twelve cases; severe pyelitis, five cases; hydramnios, two cases, and dead fetus, two cases, labor was induced successfully in every instance. To test the method in normal pregnant women during the last month of pregnancy and at term there were twenty-one cases, in which nine failures occurred. The fact that in this series all the babies were born alive testifies to the control one possesses over the action that the nasal method has also been found tion of the drug. Furthermore, it may be men-a safe and efficient procedure for accelerating labor already in progress.

ACUTE CARDIAC DILATATION

J. H. Clark, Philadelphia (*Journal A. M. A.*, July, 2 1927), reports three deaths occurring in patients shortly after intravenous injections of 10 per cent. dextrose solution, and one after physiologic sodium chloride solution. Of the two patients receiving dextrose solution, each experienced chills about twenty minutes after the injection. Their pulses became irregular and feeble, and they died within four and nine hours after the injection. One had received previous injections of dextrose solution without exhibiting such phenomena. Intravenous therapy is not the innocuous procedure it is generally considered, and the cases illustrate the necessity of carefully choosing patients for the intravenous administration of drugs, particularly when large amounts of fluid are to be given. If the injection is given slowly and a careful watch is kept of the pulse and cardiac condition, by frequent blood pressure determinations made during the injection, such fatalities should be preventable.

PULMONARY TUBERCULOSIS

Some of the facts brought out by the group of cases reported by S. W. Schaefer, Colorado Springs (*Journal A. M. A.*, June 18, 1927), are: Tuberculous lesions in the lungs do heal by absorption of infiltrations as well as by scar tissue formation. Tuberculous cavities in the lung do become very much smaller with improvement, and in some cases they apparently entirely disappear as far as the physical observations and the roentgen-ray examination can show. Artificial pneumothorax is often of great aid even in cases of pronounced bilateral tuberculous disease. If the body is relieved of the tremendous poisoning from a massive lesion in one lung, it may be able to cope successfully with a smaller lesion in the other. Most tuberculous patients are apparently helped by a high, dry, sunny climate such as that in Colorado, and in some cases such a climate may be the deciding factor in the recovery of the patient.

THE JOURNAL

OF THE

Missouri State Medical Association

DECEMBER, 1927

EDITORIALS

THE HORTON CASE AGAIN

Another chapter has been written in the now well known Horton case. On November 14 Judge Robert W. Hall, of the Circuit Court of St. Louis, rendered his decision in the case and ordered the State Board of Health to restore Horton's license to practice medicine in Missouri, which had been revoked by the Board at a hearing in St. Louis in May, 1927. After the revocation Horton appealed to the St. Louis Circuit Court, where the case was reviewed by Judge Hall. The Court's decree is in writing and on file in the Circuit Clerk's office.

It will be remembered that Horton was charged with "false and fraudulent statements" made to the Board in his application, upon which statements his license had been granted. The first statement alleged to be false was that he had "graduated from the Purdy High School"; the second, that he had "attended the St. Louis College of Physicians and Surgeons from October 5, 1918, to May 15, 1919; from October 1, 1919, to June 2, 1920; from October 10, 1920, to May 2, 1921."

As to Horton's claim of "graduation from the Purdy High School" the Court said in his decision, "the complaint in this case charges the relator, Horton, with having made false and fraudulent statements in his application filed with the State Board, upon which a license was granted. A great deal of testimony was adduced with reference to his preliminary education before entering upon the study of medicine, and attacking the purported certificate of graduation from the Purdy High School. This matter was disposed of in the decision heretofore referred to by our Supreme Court. It is to be noted that the law with reference to the preliminary education provides 'a certificate of graduation from an accredited high school or its equivalent.'"

The decision of the Supreme Court referred to is that of Horton v. Clark et al., in which Horton sought to enjoin the State Board of Health from proceeding to hear his case. The Supreme Court ruled against Horton and the hearing was resumed and resulted in the revocation of his license.

Horton did not, the records show, represent to the Board that he had made the *equivalent* of a certificate of graduation from an accredited high school but stated in his application, on affidavit, that he had *graduated* from the Purdy High School with a credit of 16 units.

The oral, photographic, and documentary evidence showed, it is said, that Horton *did not graduate* from the Purdy High School. Moreover, Horton admitted this fact when testifying at the hearing before the Board, and admitted also that he did not attend high school for four years, as he claimed in his application to the Board. This it appears to us is conclusive proof that the first charge was fully established and that the Court erred in not so holding.

In reference to the second alleged false statement, it was shown by advertisements or professional cards which Horton admitted he carried in two newspapers published in his home county, that he was practicing as a veterinary surgeon in that county during the time he claimed to be in attendance at the St. Louis College of Physicians and Surgeons. In these advertisements he said he would answer calls day or night, and gave his office and residence 'phone numbers. Furthermore, several letters, which Horton admitted he wrote to the state veterinarian at Jefferson City during the same time about his veterinary practice in Arkansas and Missouri, were admitted in evidence. In these letters he told the state veterinarian how he was progressing in his practice and asked for the appointment as a deputy state veterinarian, and also asked for advice as to the use of hog cholera serum and other matters in connection with his practice.

Horton failed, it is said, to introduce any *record* of any kind whatever tending to establish his claim of attendance at the St. Louis College of Physicians and Surgeons. No receipts for tuition or laboratory fees; no canceled checks for these items, or for board, room, books, or equipment; no statement from his landlord or boarding housekeeper where he lived in St. Louis while in the medical school; no bank records of any banking business in connection with any expenditures usually necessary to a student away at school, were introduced by Horton. He offered no testimony by himself, his relatives, or anybody else as to the name of the street, number of the house, or place where he ate, slept and studied; no classmate, not even one, was produced to testify that Horton was in classes with him as a student although two years had elapsed from the time that the complaint was filed until it was finally heard by the Board. Is it not self-evident that any student who has attended medical school for any length of time at all, could readily pro-

duce evidence of all or most of the foregoing facts?

The process of reasoning or logic by which the Court arrived at its finding in this case it seems to us erroneous. The facts tending to prove the charges against Horton are so clear, so convincing, and so numerous that a layman without any legal training whatever should not be left in doubt as to the proper conclusion to be drawn therefrom.

We are informed that the State Board of Health is taking the necessary legal steps to appeal the case to the Supreme Court of Missouri.

NEW BUILDING OF ST. LOUIS MEDICAL SOCIETY DEDICATED

The new building of the St. Louis Medical Society was officially dedicated to medical science on Tuesday night, November 1, 1927. The Society has been holding its meetings in the new auditorium since the opening of the fall sessions in September but the dedicatory ceremony was postponed until November so that the largest number of members might participate in the occasion. Although the weather chanced to be stormy and wet that night more than six hundred members with their wives and friends were present to listen to the addresses of the speakers chosen to commemorate the occasion, inspect the beauties of the architecture of the building and sumptuous furnishings and enjoy the closing function, a dance and luncheon in the basement built and furnished to provide for such occasions.

Dr. C. A. Vosburgh, President of the Society, presided at the meeting and addresses were given by Dr. McKim Marriott, Dean of the Washington University School of Medicine, the Reverend Alphonse M. Schwitalla, Regent of the St. Louis University School of Medicine, Mr. Isaac H. Lionberger, an attorney who has for many years shown a deep interest in the advancement of medical science and especially the St. Louis Medical Society, and Dr. Amand Ravold, former president of the Society. Dr. Jabez N. Jackson, Kansas City, President of the American Medical Association, and the Honorable Victor J. Miller, Mayor of St. Louis, had been invited to deliver addresses at the meeting but both of them were prevented from attending, Mayor Miller on account of illness and President Jackson on account of injury in an automobile accident.

The new building is undoubtedly one of the finest structures in the country devoted to medicine. It is a splendid tribute to the spirit of progress of the profession of St. Louis for it was completed only after six years of

strenuous effort to raise the sum of money required to construct such an elaborate structure. This is the second real home of the St. Louis Medical Society, the first one having been built in 1906. That building was made possible through the efforts of Dr. Alonzo R. Kieffer who was treasurer of the St. Louis Medical Society for eight years and during that time he saved from the dues a sufficient sum to encourage the Society to begin the construction of the auditorium on ground leased from the St. Louis Medical Library Association. With the two organizations thus closely associated overtures were begun looking toward the consolidation of the St. Louis Medical Society and the St. Louis Medical Library Association. This union was completed in 1913 and the library became the property of the St. Louis Medical Society thus throwing open to all its members a large and rapidly growing medical library. The St. Louis Medical Society prospered and the library has become one of the noted ones in this country. The facilities of the old buildings on Pine Street became cramped and particularly the library outgrew its quarters. The building was not a fireproof structure; indeed it was a fire trap that threatened the loss of the library at any time that a fire gained foothold. Realization of these facts started another movement among the members for a new building and in 1921 Dr. Emmett P. North, then President of the Society, called attention to this pressing question in his inaugural address. His successor, Dr. William W. Graves, in 1922, repeated the plea in his inaugural address and himself immediately began planning a campaign for a new building. Succeeding presidents carried on the work and through untiring energies of committees and the Society as a whole with the assistance of friends of the Society this splendid structure has been erected and equipped at a cost of approximately \$300,000.*

Besides the library which comprises some 25,000 volumes the building contains an auditorium built to seat 1000 persons, the administrative offices, a lounge room tastefully furnished, a kitchen and a basement room capable of seating 300 persons.

NEWS NOTES

The town of Howell, St. Charles County, is in need of a physician. The location is good, gravel roads. Anyone interested may write Mrs. E. A. Howell, Hamburg, Missouri.

* For a complete account of the struggle to raise funds for the erection of the building see J. Missouri M. A. 22:317, 326, 1925.

Governor Baker has appointed Dr. L. D. Greene, Richmond, a member of the Board of Regents of the Maryville State Teachers College.

From *Science* we learn that the Nobel prize in medicine for 1927 has been awarded to Dr. Julius Wagner-Jauregg, professor of neuropathology at the University of Vienna, for his discovery of the malaria treatment for paresis.

Dr. C. D. Cantrell, Kansas City, has entered the Hole-In-One Club. He made the drive at Swope Park golf course, November 7, on No. 16, a 270-yard hole. Dr. B. M. Colby and Mr. R. P. Vernon were playing with him.

Dr. Edwin L. Hume, of Bourbon, has been appointed consulting physician to the Missouri Workmen's Compensation Commission. He succeeds Dr. Earle H. Coon, Grand Pass, who has accepted the position of first assistant physician at State Hospital No. 3, Nevada.

Dr. and Mrs. J. M. Billings, Lebanon, celebrated the sixtieth anniversary of their marriage October 22. A reception at the church was tendered the couple and was attended by a remarkable outpouring of the people of Lebanon and Laclede County where Dr. Billings has practiced for very many years.

In connection with the dedication of the new medical school buildings of the University of Chicago, an oil portrait of Dr. Frank Billings, emeritus professor of medicine, was unveiled at a dinner in honor of Dr. Billings, October 27. The honorary degree of doctor of science was conferred upon Dr. Billings at the one hundred and forty-eighth convocation of the University of Chicago, October 31.



The new building of the St. Louis Medical Society, 3839 Lindell Boulevard, dedicated November 1, 1927.

Dr. R. H. Simmons, Kansas City, Missouri, had his license to operate a hospital revoked by the Health Board, November 21. Maternity cases predominated at the hospital.

Dr. Eugene F. Hauck, St. Louis, has resigned as medical director of the St. Louis Mutual Life Insurance Company and has been succeeded in that position by Dr. Cleveland H. Shutt, St. Louis. Dr. Hauck has been medical director of the company for forty-three years.

The Cross of a Chevalier of the Legion of Honor of France has been awarded to Dr. Chevalier Jackson, Pittsburg, Pa., professor of bronchoscopy and esophagoscopy at the Jefferson Medical College, for his "distinguished contribution to science of medicine." The presentation was made on behalf of the French government at a private dinner by Dr. J. M. Le Mee, laryngologist of the Paris hospitals and of the American Hospital in Paris. *Science*.

The new home for nurses at the Washington University School of Nursing, St. Louis, was dedicated November 26, Edward R. Embree, New York, vice president of the Rockefeller Foundation being the principal speaker. He addressed the visitors on "Nursing in the Modern World." The new building was completed September 1 at a cost of \$500,000. It is ten stories in height with a solarium forming practically the eleventh floor.

A gift of \$300,000 to the Jewish Hospital, St. Louis, makes possible the construction of a nurse's home for the hospital. The money was donated as a memorial to the late Moses Shoenberg, a Jewish philanthropist of St. Louis, who died in 1925, by his widow and his son, Sidney M. Schoenberg. Practically the entire sum will be used in the construction of the building as the ground upon which it will be erected is already owned by the Jewish Hospital.

The American Medical Association of Berlin furnishes to American medical students, practitioners and scientists any needed information concerning medical science courses, hospital and laboratory work in Berlin. The officers of the Association are in contact with all activities of the hospitals, clinics and the University of Berlin Medical School and they invite correspondence concerning the opportunities for medical study, cost of living, etc. Address American Medical Association of Ber-

lin, care of Kaiserin Friedrich-Haus, Berlin NW6, Luisenplatz 2-4.

Dr. James Moores Ball, St. Louis, has written a new book entitled "Sack-Em-Up Men," which will soon be published by Messrs. Oliver and Boyd, publishers at Edinburgh and London. The book describes the status of teaching anatomy in Edinburgh ninety nine years ago when material for dissection was obtained by grave robbing and other criminal methods even including murder. Mr. D. M. Greig, Conservator of the Museum of the Royal College of Surgeons, Edinburgh, assisted Dr. Ball in gathering the material for the book and will read the proof.

The United States Civil Service Commission has announced that hospitals of the United States Public Health Service and the Veterans' Bureau throughout the country are in urgent need of laboratorians in bacteriology and roentgenology and that applications for the positions will be rated as received until January 7, 1928. Salaries are as follows:

Laboratorian (Bacteriology).—Public Health Service, \$1,320 to \$2,100; Veterans' Bureau, \$1,860 to \$2,400.

Assistant Laboratorian (Bacteriology).—Public Health Service, \$1,080 to \$1,320; Veterans' Bureau, \$1,500 to \$1,860.

Laboratorian (Roentgenology).—Public Health Service, \$1,800 to \$2,400; Veterans' Bureau, \$1,860 to \$2,400.

Assistant Laboratorian (Roentgenology).—Public Health Service, \$1,080 to \$1,800; Veterans' Bureau, \$1,500 to \$1,860.

The lower salary named is the entrance salary in each instance. Higher-salaried positions are filled through promotion.

Appointees to the Public Health Service are also allowed quarters, subsistence and laundry. Appointees to the Veterans' Bureau are not allowed quarters, subsistence and laundry in addition to salary, and when they are furnished by that Bureau a deduction therefor is made from the salary.

Applicants will not be required to report for examination at any place, but will be rated on their education, training, and experience, as shown by their sworn statements and corroborative evidence.

For full information and application blanks (Form 2374) apply, stating the title of the examination desired, to the secretary of the local board of United States civil service examiners at any first class post office, or to the United States civil service district secretary at St. Louis, Mo.

The following articles have been accepted for New and Nonofficial Remedies:

DePree Company

Sulpharsphenamine—DePree

Sulpharsphenamine—DePree, 0.1 Gm.
Ampules

Sulpharsphenamine—DePree, 0.15 Gm.
Ampules

Sulpharsphenamine—DePree, 0.2 Gm.
Ampules

Sulpharsphenamine—DePree, 0.3 Gm.
Ampules

Sulpharsphenamine—DePree, 0.4 Gm.
Ampules

Sulpharsphenamine—DePree, 0.45 Gm.
Ampules

Sulpharsphenamine—DePree, 0.6 Gm.
Ampules

Sulpharsphenamine—DePree, 1.0 Gm.
Ampules

Sulpharsphenamine—DePree, 3.0 Gm.
Ampules

Gilliland Laboratories, Inc.

Typhoid Vaccine, 30 Ampule package

Eli Lilly & Co.

Ephedrine—Lilly

Inhalant Ephedrine Compound—Lilly

Parke, Davis & Co.

Erysipelas Streptococcus Antitoxin (Refined and Concentrated)—P. D. & Co.

E. R. Squibb & Sons

Scarlet Fever Streptococcus Toxin—Squibb,
5 vial package

(500, 2,000, 8,000, 25,000, 60,000 skin
test doses)

Scarlet Fever Streptococcus Toxin—Squibb,
50 vial package

(500, 2,000, 8,000, 25,000, 60,000 skin
test doses)

Winthrop Chemical Co.

Mesurool

Emulsion Mesurool, 20 per cent.

Nonproprietary Articles

Ephedrine (base)

OBITUARY



JOHN D. SEBA, M.D.

Dr. John D. Seba, Bland, a graduate of Beaumont Hospital Medical College, St. Louis, 1892, died at his home November 1, 1927, aged 71.

He was a member of the Gasconade-Maries-Osage County Medical Society, the State Association, Rolla District Medical Association, Modern Woodmen of America, and the Brotherhood of American Yeomen. Dr. Seba

served as secretary of his county society for several years and as delegate to the State meeting for several years. He was also county health officer and surgeon for the Rock Island Railroad.

ASHMAN HENRY VANDIVERT, M.D.

Dr. Ashman Henry Vandivert, a graduate of the University of Michigan Medical School, Ann Arbor, 1877, died suddenly from cerebral hemorrhage at the home of his son, Dr. W. W. Vandivert, Seattle, Washington, October 19, 1927, aged 74.

Dr. Vandivert was born in Muskingum County, Ohio, April 7, 1853, and when a small boy came to Missouri with his father, Dr. R. H. Vandivert, who was one of the pioneer physicians of that part of the country. He was an active member of the Harrison County Medical Society and the State Association, having held positions of honor in both organizations. He served as councilor of the third district from 1920 to 1925, and in 1923 he was a delegate to the State meeting. For four years he was connected with State Hospital No. 2 at St. Joseph, and was always quite prominent in educational work. He was also a Fellow of the American Medical Association.

Dr. Vandivert retired from practice in July, 1927, after fifty years of active work at Bethany, Missouri, and moved to Washington to make his home. His remains were brought to Bethany for burial and his funeral, October 24, was attended by members of the Harrison County Medical Society.

MARCUS B. AUSTIN, M.D.

Dr. Marcus B. Austin, Brunswick, a graduate of Marion-Sims College of Medicine, St. Louis, 1897, died October 29, 1927, at Kansas City, aged 57.

Dr. Austin received his preliminary education at the State Normal School, Warrensburg. He practiced his profession at Brunswick for thirty years, locating there soon after his graduation. He served as local surgeon for the Wabash Railroad, and in 1922 was alternate delegate from the Chariton County Medical Society to the State Association meeting. Besides being a member of his County Society and the State Association he was a member of the Modern Woodmen of America. Dr. Austin is survived by his mother and one sister.

ROBERT T. HENDERSON, M.D.

Dr. Robert T. Henderson, Jackson, a graduate of the Cincinnati College of Medicine and Surgery, 1862, passed away at his home

October 14, 1927, aged 87. Death was due to advanced age.

Dr. Henderson was born March 17, 1840, near New Wells, Missouri. He attended school at Pleasant Hill and Jackson and began the study of medicine under Dr. S. A. Buteau, then living near Shawneetown. Following his graduation he started practicing at Perryville but was forced to give up the practice on account of ill health. The next year he resumed his practice at Perryville and it was there that he was commissioned surgeon of the 64th Regiment, Missouri Militia, in 1864. On November 10, 1864, he was married to Miss Anna Moore, who preceded him in death ten years ago. In 1865 he took over the practice of Dr. Buteau and was located at Shawneetown for more than twenty years. He moved to Jackson about 1888, where he became associated with Dr. G. W. Vinyard.

Dr. Henderson practiced medicine in Southeast Missouri for fully sixty years. He was a past president of the Cape Girardeau County Medical Society, of which Society he was elected an Honor Member in 1923. He was also a member of the Southeast Missouri Medical Society, the State Association, and the Masonic Order. He is survived by two half brothers and one half sister.

In Memoriam

Dr. Robert Theodore Henderson passed to his reward October 14, 1927, at his home in Jackson, Mo., aged 87 years, 7 months and 2 days. He was noted for his unselfish devotion to his clients and his charitable disposition toward all mankind, especially the widow and fatherless. His genial affability and optimistic spirit brought sunshine wherever he went. His acute sense of honor and high moral principles made him a powerful force for good in the community in which he lived. Generosity he had, such as is possible to those who practice an art, never to those who drive a trade. He showed as little as any in the defects of the period in which he lived and most nobly exhibited virtues of the race. Until physical weakness prevented he was very active in the practice of his profession and always deeply interested in medical progress. He wrote papers and attended medical associations and strove to equip himself to render the best possible service to his clientele, fully realizing that the wise physician is more than armies to the public weal. Service was the goal of his ambition which is the most lasting and commendable asset one can have in this span of life. It was not in him to inquire as to one's financial condition when a call came for assistance; it

was to help. The lure for sordid greed never penetrated his armor. He lived an absolutely clean life. He fought a good fight against the evils of this life; finished his course and kept the faith.

He approached life's calm close,
Tranquil, patient and frail;
Breathing the sad contented song,
The song of the ended trail.
But, happy in his memories,
He watched life's twilight fall,
And smiled on Death all tenderly
When answering the call.

G. W. VINYARD.

MISCELLANY

WEDDED SIXTY YEARS

Lines composed by Mrs. J. M. Billings, Lebanon, and read by her at the reception tendered Dr. and Mrs. J. M. Billings by the people of Lebanon, October 22, 1927, on their sixtieth wedding anniversary:

In these modern times 'tis not always the plan
To spend one's life with just the same man;
Change is the slogan for these speeding days;
Keep up with the crowd, be a good sport in all ways.

Three score years have come and gone;
Content still together we journey along;
Looking back to youth seems a long span;
Many things we've learned as time swiftly ran.

In those long ago days of youthful striving
'Twould have seemed a fairy tale told of both
surviving;
Much happiness there has been—also sorrow and
care;
Always a faithful heart, ever ready each to share.

Many friends we've loved that we see no more;
Just dreams of a happy meeting on that other
shore,
Where we'll see no shadows nor feel any pain,
But all is sunshine and never a cloud or rain.

We'll waste no moments in vain regret
When our day is done, our sun ready to set;
So sing no sad songs for us nor make any moan
For we've heard the message that calls us home.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1927

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID DUES FOR ALL THEIR MEMBERS)

HONOR ROLL

Camden County Medical Society, December 31,
1926.

Holt County Medical Society, January 21, 1927.
Iron County Medical Society, March 4, 1927.
Madison County Medical Society, March 9, 1927.
Dent County Medical Society, April 2, 1927.
Ralls County Medical Society, April 4, 1927.
Platte County Medical Society, April 7, 1927.
Atchison County Medical Society, April 9, 1927.
Chariton County Medical Society, April 15,
1927.
Montgomery County Medical Society, May 7,
1927.
Vernon-Cedar County Medical Society, August
1, 1927.
Christian County Medical Society, August 3,
1927.
Lafayette County Medical Society, August 11,
1927.
Bates County Medical Society, August 16, 1927.
Howell-Oregon County Medical Society, Sep-
tember 29, 1927.
Miller County Medical Society, October 12,
1927.
Sullivan County Medical Society, October 12,
1927.
St. Genevieve County Medical Society, October
14, 1927.
Scotland County Medical Society, October 18,
1927.
Mercer County Medical Society, November 1,
1927.
Webster County Medical Society, November 1,
1927.
Callaway County Medical Society, November
3, 1927.
St. Charles County Medical Society, November
19, 1927.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

One Hundred and Thirtieth Meeting, October
10, 1927

1. CARBOHYDRATE METABOLISM IN OBESITY.—By DR. E. RONZONI.

The purpose of this investigation was to demon-
strate if possible any qualitative difference in carbo-
hydrate metabolism in the obese as compared with
the normal individual and those underweight. Since
this study was started several papers have appeared
on the same general subject. Strouse has apparently
demonstrated a decrease in the specific dynamic
action of absorbed food. Since this is normally only
about 6% of the total food ingested it could scarcely
account for the increase in weight. Hagedorn has
recently pointed out that the postabsorptive respira-
tory quotient (R.Q.) in normal individuals after two
days on a high carbohydrate diet is relatively higher
than after a normal diet. In the obese individual
it has returned to normal even after two days on a
high carbohydrate intake and this normal is
lower than that of the individual of average weight,
showing a combustion of a large amount of fat. He
attempts to show a relationship between the R.Q.
and the degree of obesity which is hardly convincing.

Two types of experiments were used in this study:
(1) The effect of the ingestion of 1.75 gms. glucose
per kg. body weight on the respiratory metabolism
and the blood sugar. (2) The effect of a high car-
bohydrate diet on the R.Q. taken in the postab-
sorptive state. The subjects were kept in the hospi-
tal during the period of the investigation. The
nitrogen metabolism was determined on 24 hour

specimens of urine and on a specimen collected during the actual experiment, between 7 a. m. and 1 p. m. This 6 hour specimen approximates as nearly as possible the basal protein metabolism uninfluenced by food intake. Fifty eight per cent. of this protein was included as carbohydrate in calculations of the nonprotein R.Q. At least 2 complete experiments were carried out on each subject and these after a number of basal determinations had been made to accustom the subject to metabolism determinations.

The underweight subjects react as the normal subject after ingestion of glucose. The R.Q. rises as the blood sugar but does not return to normal as soon as the sugar. There is but one notable difference in the metabolism and that is a lower rate which is consistent with that in frank undernutrition.

Of the ten obese cases studied eight show a low fasting R. Q. On ingestion of glucose the R.Q. rises to a higher level, often above unity, indicating an undoubted storage of fat. As the blood sugar returns to normal it rarely drops below the control blood and the R.Q. returns to the original low level at the same time. The blood sugar curves on the whole show a high tolerance for glucose. Two cases react as normal individuals.

In the obese after a day on a high carbohydrate diet the R.Q. is at its usual low level while in the normal controls it is still higher than normal. This again shows that the obese subject as in Hagedorn's experiments is using a larger proportion of fat than a normal individual on the same diet and that presumably he has stored his excess carbohydrate as fat.

2. THE CHEMICAL MECHANISM OF GASTRIC HYDROCHLORIC ACID SECRETION.—By DR. H. A. BULGER.

The chemical changes in human gastric juice during hydrochloric acid secretion have been studied, using water to stimulate secretion and correcting for the dilution as suggested by Gorham. With the production of hydrochloric acid there was a decrease in base proportional to the increase in acid, the chloride concentration remaining about the same as in blood serum. It appeared that chloride ions leave the blood in approximately the same concentration as in serum, free hydrochloric acid being liberated by a retention of base. The mechanism by which a strong acid is produced from slightly alkaline blood has been studied further by determining the changes in serum electrolytes as blood flowed through the dog's stomach during secretion. If, as indicated by the experiments on human subjects, chloride ions leave the blood in the same concentration as in serum, little change in the concentration of chloride in the serum from the secreting stomach would be expected. The experiments showed this assumption to be correct; there was little or no fall in chloride. But there was a definite retention of base. This increase in base would result in a very alkaline reaction of the blood if there were not some adjustment by an increase in acids. The experiments indicated that this adjustment was effected by a gain in bicarbonate and an increase in organic acids.

The concentration of phosphate in human gastric juice was generally much greater than in serum. As a rule, if a stimulus did not result in hydrochloric acid secretion, the phosphate increased, but if much acid were produced the concentration fell. These variations in phosphate were attributed to fluctuations in the relative amounts of secretion from the mucous glands.

3. INFANTILE MASTOIDITIS AS A FOCUS OF INFECTION.—By DR. H. W. LYMAN.

Gastro-intestinal disturbances in infants may be due to some parenteral infection. This parenteral focus is frequently in the ear, nose, or throat.

In 1898, Hartmann recognized that diarrhea, vomiting, and loss of weight in infants was sometimes due to otitis media, and that paracentesis influenced the progress of the case favorably.

Maurice Renaud, in 1921, demonstrated that frequently the mastoid antrum was involved and that these cases required a mastoid operation.

This type of case has been carefully studied in the St. Louis Children's Hospital for the last three years and the work has confirmed the findings of Renaud and demonstrated that prompt removal of the infective focus, whether in the ear or in the antrum, greatly increases the percentage of recovery. During the fall and winter of 1926 and 1927 forty three cases of mastoid infection in infants under two years of age were operated on. Thirty of these cases showed gastro-intestinal disturbances. Of these thirty cases, twenty two recovered and eight died. Of the thirteen cases of mastoid infection, in which no gastro-intestinal symptoms were present, there was only one death and this due to causes entirely distinct from the ear infection. These figures show very forcibly that in infants mastoid infections with gastro-intestinal symptoms are much more serious than those without, and that prompt and thorough operation is much more important in these cases than in the usual mastoid abscess. Because of the fact that these infants are very bad operative risks, the mastoids are always opened under local anesthesia with as little disturbance of the tissues as possible; and we feel that this procedure has not contributed to the death of any of our cases.

This work has been carried on by the Departments of Pediatrics and Otolaryngology under the direction of Dr. W. McKim Marriott, the otological work having been done chiefly by Doctors A. M. Alden, B. J. McMahon, L. E. Freimuth, and the writer. The bacteriological study of these cases was carried out by Dr. Mary Spahr; the pathological work by Dr. Bernard J. McMahon; and the blood chemistry by Dr. Alexis Hartmann.

4. VISUALIZATION OF SINUS DRAINAGE.—By DR. ARTHUR W. PROETZ.

Practically all sinus treatment, surgical or medical, concerns itself with ventilation and drainage. If it were possible to examine each cell and to observe the facility with which it spontaneously empties itself of its contents, much needless surgery could be avoided. While this is impossible, the situation can be closely approximated by the use of lipiodol introduced into the cells by the displacement method¹.

Skiaographs taken at definite intervals show clearly the passage of the lipiodol from the cell and indicate the relative facility with which each drains itself. Definite information has been obtained so far only in regard to the sphenoid and posterior ethmoid group. The average cell empties itself of three fourths of its contents in twenty four hours. In forty eight hours another one eighth disappears. In seventy two hours only a trace, if any, remains. It has been observed that during the first twenty four hours oil may shift its position from a cell which was filled at the first instillation into one not so filled.

It is shown that diseased cells may be distinguished from their neighbors by the relative difficulty with

which filling takes place and again by the relatively long drainage time. Oil introduced for such observations must be instilled without the use of cocaine or other astringents, which would alter the status of the ostium. Local reactions, such as would be caused by the use of cannulae, must also be avoided.

It is believed that the information thus gathered of the physiology of the sinuses is more reliable and of greater clinical value than the simple topographical information obtained from a single exposure.

1. Protez, A. W.; Proceedings of the Washington University Medical Society, December 14, 1925, J. Missouri M. A. 23:76, 1926.

BOONE COUNTY MEDICAL SOCIETY

The Boone County Medical Society held their regular meeting at Columbia, November 1. The president, Dr. Lloyd Simpson, called the meeting to order at eight p. m.

Letters from the American Medical Association concerning American education week and from the State Board of Health encouraging the reporting of contagious diseases were read.

An invitation to meet with the Quincy, Illinois, Medical Society was received.

A communication from Mrs. Virginia C. Misenheimer concerning a chest clinic was read. After a discussion of the proposed clinic a motion was made by Dr. M. Pinson Neal that the problem of chest clinic be referred to the clinic for that purpose which was appointed three years ago. The motion carried.

The secretary was instructed to write Mrs. J. E. Thornton and Mrs. Schwak, thanking them for the books given the Society.

Dr. A. B. Potter, who has just returned from the Hawaiian Islands where he was given an appointment by the administrators of the Islands, gave a very interesting talk on "Leprosy in the Hawaiian Islands," illustrated by lantern slides.

Dr. Potter was given a vote of thanks by the Society for his splendid lecture.

Dr. F. A. Jostes, Columbia, was elected to membership in the Society on October 4, by transfer from St. Louis Medical Society.

HUGH P. MUIR, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The October meeting of the Clay County Medical Society was held at the U. S. Government Hospital, Excelsior Springs, October 27, at 6 p. m. Dr. W. E. Chambers, medical officer in charge, extended the invitation to meet at the hospital at our last meeting in June. Members and their wives found the host awaiting them with "everything set" which meant a splendid, four course dinner in the great dining hall, to which forty happy diners sat down. Mrs. Chambers, and the other charming wives of the staff, greeted us and made our visit delightful to the last word.

After dinner Dr. Chambers personally took the men through the culinary department to the remotest parts. The extreme in sanitation was everywhere. We saw the refrigerating plants, the electrical devices and sterilizing rooms; even dishes and silverware are rendered aseptic ere being placed on the table. A diabetic department is maintained, scientific in every particular. Every article of food is doubly inspected, weighed, and accounted for exactly. Cookery and serving are done in separate rooms. The operating and guest rooms were also visited by the members.

The scientific program was called at 8 p. m. The

first paper was read by Dr. E. C. Robichaux, Excelsior Springs, on "Monarticular, Non-complicated, Exudative Synovitis" with report of two cases. This was a fine paper, teeming with technicalities and emphatic as to diagnosis. Neosalvarsan cured one; two aspirations the other. The Doctor favored arsenicals in treatment, in one form or another. Discussion was freely indulged in, Dr. E. H. Miller leading.

Dr. A. R. Warner, Excelsior Springs, read a very fine paper on "Diabetes," which was well received and drew its share of favorable comment.

A paper on "Staff Diagnosis and Treatment of Gastric Ulcer," of interest to all, was read by Dr. J. A. Howell, Excelsior Springs.

Dr. T. F. Neil, Excelsior Springs, a third physician of the hospital staff, gave a talk covering aortic aneurysm, and the symptom of aphasia in one of his cases. The boy, an ex-army veteran, was before the Society and X-ray pictures showed clearly the condition of the aortic area.

The three hospital men, all of whom are honorary members of the Society, were applauded in a fitting manner. One of our older members was heard to say: "This is the best meeting that I have attended in the history of our association," and his associates agreed with him.

The secretary read a resolution condemning severely a local, non-ethical "Health School" and its radio propaganda. The resolution was adopted unanimously and copies ordered for service. The resolution follows:

"WHEREAS, Doctor S. E. Ball, of the Ball Health School, Excelsior Springs, Missouri, an advertising, non-ethical institution, is giving so-called Health and Dietetic Lectures over WHB, Sweeney Automotive and Electrical School Broadcasting Station of Kansas City, Missouri, and at the conclusion, the announcer gives a flattering description of the institution, for the purpose of inducing patronage, therefore be it

Resolved, That such lectures are detrimental to the reputation of the health giving waters, and business interests of Excelsior Springs, and be it further

Resolved, That such lectures given by one whose license has been revoked by the State Board of Health is an injury and disgrace to the medical profession of Missouri, and be it further

Resolved, that the officers, president and secretary of this Society, be instructed to communicate with the Jackson County Medical Society and urge them to use their influence with WHB, the Sweeney Automotive and Electrical School Broadcasting Station, to discontinue such lectures being transmitted through their station."

The Society, by a rising vote and resolution, commended Dr. Chambers, his excellent staff and employees, for their splendid management and service for "Uncle Sam's" unfortunate boys who gave so much in the service of their country. The hospital is 100 per cent. efficient. Dr. Chambers invited our members to visit the hospital more often in the future, and spoke warmly for the honest, organized practice of medicine; his words were from the heart.

J. J. GAINES, M.D., Secretary.

CRAWFORD COUNTY MEDICAL SOCIETY

The annual meeting of the Crawford County Medical Society was held in the office of Drs. W. J. and R. C. Parker, Steelville, October 20, with the following members present: Drs. J. P. Dunigan and W. P. Mattox, Sullivan; R. P. Royse, Bourbon; W. G. Henderson, Cuba; W. J. and R. C. Parker, Steelville. Dr. J. W. McCarty, Salem, was a visitor.

The meeting was called to order by the president, Dr. R. P. Royse, and the minutes of the previous meeting were read and approved. Election of officers followed. Dr. R. C. Parker was elected president and Dr. W. J. Parker was re-elected secretary.

Among the various subjects discussed, poliomyelitis received general consideration by all present. This was a very interesting session and the Society is anticipating good meetings in the future.

The Rolla District Medical Association will reorganize some time in November. The last meeting of this Association was held in 1917.

W. J. PARKER, M.D., Secretary.

FRANKLIN COUNTY MEDICAL SOCIETY

The Franklin County Medical Society met in Union, November 1, 1927, and elected Dr. J. L. Walker, Union, a member of the Society.

The following officers were elected for the ensuing year; President, J. L. Walker, Union; vice president, W. H. Wagner, Washington; secretary-treasurer, H. A. May, Washington; Censor, A. L. McNay, Pacific.

JASPER COUNTY MEDICAL SOCIETY

The Jasper County Medical Society met in regular session November 1 at the Joplin Y. M. C. A. at eight p. m. Members present: Drs. E. J. Burch, L. B. Clinton, H. A. LaForce and R. W. Webster, Carthage; L. C. Chenoweth, A. B. Clark, S. H. Miller, R. E. Myers, R. L. Neff and J. L. Sims, Joplin; J. M. Gray, Chitwood; R. M. Stormont, Webb City. Visitor present: Dr. K. Huffman, formerly of Bentonville, Arkansas.

The president, Dr. L. C. Chenoweth, appointed Dr. John L. Sims as acting secretary. Reading of the minutes of the last meeting was omitted. No standing committees reported.

A letter was read from Dr. T. C. Allen, Bernie, Secretary of Stoddard County Medical Society, under date of May 4, relative to the admission to this Society of Dr. J. L. Craig, Webb City. The letter stated that Dr. Craig was granted a transfer by that Society on May 4 for the purpose of becoming a member of the Jasper County Medical Society. The transfer was referred to the board of censors. Their accepted report was submitted and after his election the secretary was asked to notify Dr. Craig of the above action.

Dr. A. B. Clark, Joplin, mentioned the subject of toxin-antitoxin administration to school children and suggested that the Society take some action as to their indorsement. After some discussion the majority voiced the opinion that this was an unnecessary procedure as it seemed that enough publicity had been given the subject through the local press by the board of health.

Dr. R. M. Stormont, Webb City, reported three cases of sore throat in a family of two boys and one girl. Smears from the throats were positive for diphtheria in the two boys but negative in the girl, the latter having had toxin-antitoxin two years ago. However, the clinical picture, owing to the onset course and high temperature, did not point to diphtheria. They each received 10,000 units of antitoxin and later one of the boys and the girl were given 5,000 units.

Dr. J. M. Gray, Chitwood, reported an obstetric case which on first examination he diagnosed as a breech presentation. Twenty-four hours later it proved to be an L. O. A. The case in question was a primipara thirty-three years old.

Dr. E. J. Burch, Carthage, presented an interest-

ing paper on "Obstetrical Forceps, Their Use and Abuse," first going into a history of forceps, then giving their indications. Some stress was laid upon pelvic measurements, diagnosis of positions, preparation of the patient with special stress on emptying of the bladder and the introduction of forceps. He brought out the fact that forceps are instruments of traction and not retraction. He also reminded us of the fact to always apply the forceps between pains, but to make traction with the pains. He demonstrated not only the Simpson forceps but the axis-traction and the Keilland. Under the abuse or contraindications he pointed out that one should do an episiotomy and always correct any abnormal position.

Drs. L. B. Clinton, A. B. Clark, S. H. Miller, R. L. Neff, and J. L. Sims briefly discussed the subject.

A motion was made, seconded and passed that the president and secretary make necessary arrangements for the entertainment of Dr. E. Lee Dorsett, of St. Louis, who has been invited to speak before our Society in the near future.

JNO. L. SIMS, M.D., Acting Secretary.

LAFAYETTE COUNTY MEDICAL SOCIETY

The Lafayette County Medical Society met in the Masonic Hall at Odessa, November 8, at two p. m., with the following members present: Drs. W. E. Koppenbrink, W. C. Webb, W. A. Braecklein and J. de Voine Guyot, Higginsville; Edmund Lissack, E. L. Johnson and Henry M. Lissack, Concordia; R. C. Schooley and W. E. Martin, Odessa; Odus Liston, Oak Grove; J. B. Willis, Mayview; C. T. Ryland, Lexington; Lewis Carthrae, Jr., Corder. The minutes of the last meeting were read and approved. The report of the treasurer, Dr. Edmund Lissack, was presented and on motion of Dr. Braecklein, seconded by Dr. Webb, and carried, the report was accepted.

It was moved by Dr. Braecklein, seconded by Dr. Schooley, that members of the Society be assessed one dollar (\$1.00) each in order that the outstanding debts may be paid. Carried. The assessment was paid by all the members present.

A motion was made by Dr. Webb, seconded by Dr. Schooley, that Dr. Ryland take up the matter relative to Dr. Davis' case with the Executive Committee and report at the next meeting. The motion carried.

On motion of Dr. Braecklein, duly seconded, the resolution on the death of Dr. John W. Burgess was spread on the minutes and a copy sent to Mrs. Burgess. Carried.

The following officers were elected for the year 1928: President, R. C. Schooley; first vice president, Odus Liston; second vice president, W. E. Martin; secretary-treasurer, W. E. Koppenbrink; board of censors, J. W. Horner, Alma, J. Q. Cope, Lexington, and W. A. Braecklein; delegate to the State meeting at Columbia, W. A. Braecklein; alternate, Lewis Carthrae, Jr.

EDMUND LISSACK, M.D., Secretary.

PIKE COUNTY MEDICAL SOCIETY

The Pike County (Missouri) Medical Society met with the Pike County (Illinois) Medical Society at Barry, Illinois, Thursday, October 27. About forty physicians were in attendance and were served a bountiful dinner by the Illinois Society.

Two very interesting papers were read, one by Dr. E. E. Edmondson, Louisiana, Missouri, on "Up-to-date Methods of Clearing Up Infections of the Head," and the other by Dr. Charles P. Lewellen, Louisiana, Missouri, on "The Law and the Medical Profession."

CHARLES P. LEWELLEN, M.D., Secretary.

ST. FRANCOIS COUNTY MEDICAL SOCIETY

The St. Francois County Medical Society met at the Bonne Terre Hospital, Bonne Terre, October 15, with the following members present: Drs. O. A. Smith, B. J. Robinson, R. Appleberry, Farmington; Emmett Hctor, of State Hospital No. 4, Farmington; Arnold Traubitz and W. E. Aubuchon, Leadwood; David Smith, Bonne Terre; M. B. Barber, S. C. Slaughter and W. Harry Barron, Fredericktown. Visitors: Dr. Ralph Hanks, Farmington; Dr. Taylor, Leadwood; Dr. McGurk, Bonne Terre; Dr. D. Appleberry, Rivermines.

Dr. Frank A. Elders, Desloge, and Dr. J. P. Yeargain, Irondale, were elected to membership in the Society.

Dr. Ralph Hanks, Farmington, read a paper on "Arteriosclerosis, Its Causes and Treatment," which was discussed by Drs. Emmett Hctor, S. C. Slaughter and D. Appleberry.

Dr. D. Appleberry, Rivermines, gave a talk on "Heart Murmurs." This subject was discussed by Drs. David Smith, W. Harry Barron and W. E. Aubuchon.

A program committee was appointed for the next meeting on November 15, consisting of Drs. D. Appleberry, W. E. Aubuchon and F. L. Keith.

Members who have paid their dues for 1928 are: Drs. O. A. Smith, F. W. Gale, B. J. Robinson, W. E. Aubuchon, George L. Watkins and R. Appleberry.

R. APPLEBERRY, M. D., Secretary.

ST. LOUIS MEDICAL SOCIETY

Meeting of the General Society, October 11, 1927

The meeting was called to order at 8:50 p. m. by the president, Dr. Charles A. Vosburgh. The minutes of the regular meeting, September 27, and the special meeting, October 7, were read and approved.

An invitation from the St. Louis Dietetic Association to members of the Society to attend the annual meeting of the American Dietetic Association on October 17, 18 and 19, 1927, was read by the Secretary.

The scientific program consisted of the following:

"Gonorrheal Infection," by Dr. P. N. Davis.

"Gonorrheal Complications in the Male," by Dr. Neil S. Moore.

"Chronic Gonorrhea in the Female," by Dr. Q. U. Newell.

Discussion by Drs. Edgar F. Schmitz, C. E. Burford, W. H. Nash.

Dr. M. B. Clopton reported for the Medical Committee of the American Red Cross and expressed thanks to the Society for its assistance in aiding the victims of the disastrous tornado, which occurred in St. Louis September 29.

Attendance 75.

Meeting of October 18, 1927

The meeting was called to order at 8:45 p. m. by the first vice president, Dr. John Green. The reading of the minutes of the previous meeting was dispensed with.

The scientific program consisted of the following:

"A Report on the Use of Luminal Intravenous at the Missouri State School, Marshall, Mo.," Dr. George A. Johns.

"Infantile Paralysis—Pediatric Viewpoint," Dr. J. V. Cooke.

"Infantile Paralysis—Neurological Viewpoint," Dr. J. F. McFadden.

"Encephalitis Lethargica," Dr. Frank R. Fry.

Discussion by Drs. M. W. Hoge, Park J. White; Dr. Fry closing.

Attendance 200.

Meeting of October 25, 1927

The meeting was called to order at 8:40 p. m. by the president, Dr. Charles A. Vosburgh. The minutes of the meetings of October 11 and 18, 1927, were read and approved.

Dr. Vosburgh announced that the Dedication Ceremonies would be held on the evening of November 1; also that an invitation had been sent by the Council of the Society to the International Post-Graduate Assembly of North America to hold its 1928 convention in St. Louis.

Drs. E. Lee Myers and McKim Marriott presented a patient with "Infantile Laryngeal Stridor."

The scientific program consisted of the following:

The Differential Diagnosis of Pain in the Back:

"Anatomical Aspects," Dr. A. G. Pohlman.

"Medical Aspects," Dr. Warren P. Elmer.

"Neurological Aspects," Dr. L. B. Alford.

"Urological Aspects," Dr. J. H. Sanford.

"Orthopedic Aspects," Dr. J. Archer O'Reilly.

"Gynecological Aspects," Dr. Wm. H. Vogt.

Discussions by Drs. L. G. Harney, Frank Hinchey, J. Edgar Stewart, Martin VanRaalte, Cleveland H. Shutt; Drs. O'Reilly and Vogt closing.

Attendance 200.

ROLAND S. KIEFFER, M.D., Secretary.

NINTH COUNCILOR DISTRICT MEETING

The counties in the Ninth Councilor District, at Fulton, held a meeting October 7 and enjoyed a most instructive session. The meeting was called to order by Dr. Earl McD. Rusk, President of Callaway County Medical Society, at 2:45 p. m. The first paper on the program was read by Dr. E. V. Mastin, St. Louis, on "Surgery of Thyroid."

At the conclusion of Dr. Mastin's paper, Dr. Rusk invited Dr. McComas, who had come in during the reading of the paper, to preside over the meeting and Dr. McComas took the chair. Dr. Frederick A. Jostes, Director of the Crippled Children's Hospital, at Columbia, read a paper on "The State's Crippled Children's Service at Columbia." Dr. Irl B. Krause, Jefferson City, Director of Child Hygiene, of the State Board of Health, was on the program to make a report on "Poliomyelitis in Missouri," but when his name was called Dr. Krause announced that Dr. J. P. Leake, of the United States Public Health Service, was present and requested that Dr. Leake be permitted to make the report in his stead. Dr. Krause said that Dr. Leake was one of the highest authorities in this country on "poliomyelitis" and he considered it very fortunate for the members that Dr. Leake was present. He said that when he learned that Dr. Leake was in the State, investigating poliomyelitis conditions, he asked him to be in Fulton at this time so he could address this meeting.

Chairman McComas invited Dr. Leake to address the meeting on the subject and Dr. Leake made an extensive report on the status of poliomyelitis in Missouri.

All these papers were discussed by various members after which the meeting adjourned to the Country Club where dinner was served.

After dinner the President of our Association, Dr. Frank G. Nifong, of Columbia, addressed the members. The Secretary of the Association, Dr. E. J. Goodwin, read a paper on "Loyalty" and the Councilor for the District, Dr. A. R. McComas, gave an interesting talk on "Organization and Legislative

Work." The meeting was one of the most interesting and instructive, as well as enjoyable sessions that has been held in Fulton for sometime. About forty members and guests were present. The following attended:

Drs. M. R. Aldridge, Jefferson City; E. D. Baskett, Columbia; R. S. Battersby, Columbia; H. C. Bra-shear, Mexico; C. H. Christian, Fulton; P. E. Coil, Mexico; R. N. Crews, Fulton; S. W. Downing, Clarksburg; Dr. Ford, Mexico; E. N. Gentry, Sturgeon; E. J. Goodwin, St. Louis; R. G. Hall, Fulton; Fred A. Jostes, Columbia; A. W. Kampschmidt, Columbia; Irl B. Krause, Jefferson City; J. P. Leake, United States Public Health Service, Washington, D. C.; Edward V. Mastin, St. Louis; G. D. McCall, Fulton; A. R. McComas, Sturgeon; J. B. McCubbin, Fulton; E. T. McGaugh, Fulton; J. W. McHaney, Jefferson City; B. F. Menefee, Montgomery City; J. G. Moore, Mexico; M. P. Neal, Columbia; Frank G. Nifong, Columbia; W. A. Norris, Columbia; D. Nowlin, Montgomery City; H. I. Owen, Fulton; D. A. Robnett, Columbia; Earl McD. Rusk, New Bloomfield; R. L. Russell, Jefferson City; James Stewart, Jefferson City; Finis Suggett, Columbia; J. S. Summers, Jefferson City; Martin Yates, Fulton.

Dr. G. D. McCall, Fulton, presided at the dinner. MARTIN YATES, M.D., Secretary.

WOMEN'S AUXILIARY

OFFICERS 1927-1928

President, Mrs. William M. Bickford, Marshall.
President-Elect, Mrs. Willard Bartlett, St. Louis.
1st Vice President, Mrs. A. W. McAlester, Kansas City.

2nd Vice President, Mrs. W. T. Martin, Albany.
3rd Vice President, Mrs. T. O. Klinger, Springfield.
4th Vice President, Mrs. M. P. Ravenel, Columbia.
Corresponding Secretary, Mrs. L. S. James, Blackburn.

Recording Secretary, Mrs. M. A. Hanna, Kansas City.

Treasurer, Mrs. T. J. Draper, Warrensburg.

Directors (2 years): Mrs. A. B. McGlothlan, St. Joseph; Mrs. D. S. Long, Harrisonville; Mrs. George H. Hoxie, Kansas City; Mrs. Frank Hinchey, University City; Mrs. C. T. Ryland, Lexington (1 year); Mrs. M. P. Overholser, Harrisonville; Mrs. H. F. Parker, Warrensburg; Mrs. R. W. Berrey, Mexico; Mrs. J. G. Montgomery, Kansas City; Mrs. W. F. O'Malley, Webster Groves.

CLAY COUNTY AUXILIARY

The Women's Auxiliary to the Clay County Medical Society met in the sun parlor of the U. S. Government Hospital, Excelsior Springs, October 27, and elected the following officers for 1928: President, Mrs. J. J. Gaines, Excelsior Springs; first vice president, Mrs. W. J. James, Excelsior Springs; second vice president, Mrs. W. H. Goodson, Liberty; third vice president, Mrs. S. D. Henry, Excelsior Springs; secretary-treasurer, Mrs. J. E. Musgrave, Excelsior Springs (re-elected); representative for Hygeia, Mrs. W. L. Wysong, Liberty.

GREENE COUNTY AUXILIARY

In October the Women's Auxiliary to the Greene County Medical Society gave a dinner in honor of Mrs. A. B. McGlothlan, St. Joseph, Mrs. M. A.

Hanna and Mrs. Paul Cope, Kansas City, and Dr. Blanche Hopkins, Jefferson City.

These ladies were at Springfield as delegates to the State Parent-Teachers Association meeting. Mrs. McGlothlan, who is state chairman of health in the Parent-Teachers Association, gave a talk on "Why Auxiliary Members Should Be Interested in the Parent-Teachers Association."

A tea was given at the home of Mrs. T. O. Klinger, Springfield, who was assisted by a committee of Auxiliary women. The wives of all the doctors in the city and county, who were eligible, were invited.

This Society has about thirty active members. They are planning to push the sale of Hygeia subscriptions.

SALINE COUNTY AUXILIARY

The Saline County Auxiliary met with the Saline County Medical Society at luncheon in the hotel New Virginia, Marshall. After luncheon the Auxiliary adjourned to the hotel parlors for their meeting.

Mrs. W. M. Bickford, Marshall, was elected a delegate to the Girl Scouts' Council.

It was decided to offer prizes of one dollar each to the three Scout organizations of the county for the best health poster.

ST. LOUIS MEDICAL SOCIETY AUXILIARY

The St. Louis Women's Auxiliary is putting on a drive for new members by sending an invitation to the wife of every member of the St. Louis Medical Society. The letter follows:

"Dear Madam:

Have you been overlooking the fact that you are eligible to membership in the Women's Auxiliary to the St. Louis Medical Society?

We urge you to avail yourself of this privilege. The Auxiliary has in view an extensive program for the coming year and as we realize that each new member brings with her new and constructive ideas and that the usefulness of the organization will grow and expand in direct proportion to the number of its members, we trust you will not withhold your co-operation.

We want to keep on adding new blood to the Auxiliary so that the responsibilities of holding office and the carrying out of the various activities of this group can be divided among as large a membership as possible.

We know you will enjoy the spirit of comradeship that a group of this sort engenders, as well as the gratification of being engaged in a worth while endeavor.

Should it be impossible for you to take active part at this time, won't you join and lend us your moral support?

Yours very truly,

ELSE T. SCHUCK,

Chairman Membership Committee."

The Hygeia Committee had a very attractive booth at the State Teachers' Convention in St. Louis the second week in November.

NOTES

Mrs. A. B. McGlothlan, St. Joseph, was selected to represent the Women's Auxiliary from that congressional district in the State Tuberculosis Association.

The Missouri Tuberculosis Association has decided to offer Hygeia as the premium in the sale of tuberculosis stamps in the unorganized counties of the state.

BOOK REVIEWS

THE SURGICAL CLINICS OF NORTH AMERICA (Issued serially, one number every other month). Volume 7, Number 4 (Brooklyn Hospital Number—August, 1927). 311 pages with 168 illustrations. Per clinic year (February, 1927, to December, 1927). Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

This number contains a description of numerous operations and clinical demonstrations at the Brooklyn Hospital, Brooklyn, New York. The material represents the routine character of certain types of surgery at the Brooklyn Hospital. Many of the articles are profusely illustrated.

A TEXTBOOK OF PATHOLOGY. By Alfred Stengel, M.D., Sc.D., Professor of Medicine, University of Pennsylvania, and Herbert Fox, M.D., Professor of Comparative Pathology, and Director of the Pepper Laboratory of Clinical Medicine, University of Pennsylvania. Eighth Edition, Revised. Octavo of 1138 pages with 552 text illustrations, many in colors, and 18 colored plates. Philadelphia and London: W. B. Saunders Company, 1927. Cloth, \$10.00 net.

This is a new edition of a well known, established textbook and as a conservative, concise reference book for the general practitioner holds a high place.

The extensive references in which the ordinary reader is usually little interested have been happily cut down to the minimum. A. S. W.

THE THOMAS SPLINT. By Meurice Sinclair, C.M.G., M.B., Ch. B. (Edin.) Late Major R.A.M.C., Officer in charge of special fracture wards, 8 Stationary Hospital, France, 1915-1918, etc. With a Foreword by Sir Robert Jones, K.B.E., C.B., F.R.C.S. London: Oxford University Press. American Branch, 35 W. 32nd St., New York City, N. Y. 1927. Price \$4.50.

The author presents a small but complete monograph, profusely illustrated, devoted to the Thomas Splint and its modifications for the treatment of fractures. This work is the result of the author's experience in the treatment of fractures obtained during the world war.

In his preface the author writes: "Early in the great war the British mortality from shock and sepsis in cases of compound fracture of the femur was appalling. It was reduced from 80 per cent. in 1916 to 15.6 per cent. in 1917, and this was chiefly due to the immobilization secured by the early application and use of the Thomas splint, while the mortality among our segregated cases at Wimereux, Boulogne, was 13 per cent. in the year 1916, 9 per cent. in the year 1917, and 7.3 per cent. in the year 1918."

Such a notable reduction in the mortality of fracture cases is a remarkable achievement and must recommend the apparatus. At first glance the reader is struck with the apparent complexity of the apparatus described, but further study reveals its simplicity.

The author's numerous modifications are well illustrated, amply described, and should aid in a better understanding of the mechanics involved in the use of the Thomas splint. This volume should be read by all physicians and especially those interested in fracture work. L. H. S.

PRACTICAL OTOTOLOGY. By Morris Levine, M.D., Associate Professor of Otolaryngology, New York Post-Graduate Medical School and Hospital. Illustrated with 145 engravings and 3 colored plates. Lea & Febiger. Philadelphia, 1927. Price \$5.50.

By writing true to his title, Levine has brought out a very useful book. It is practical all the way through and brings to the reader not only the wide experiences of twenty years of a busy practice but the results of repeated presentations of that experience as a teacher. One is not burdened with the voluminous opinions and methods of various otologists. A limited number of footnotes and concise references replace such an out of date method. There has been no attempt to fill in with subjects outside the field.

Every disease of the ear is taken up in an orderly manner, beginning with the etiology, pathology, symptoms, findings, differential diagnosis, prognosis and treatment. This is especially well done with mastoiditis. It is regrettable that the author has used no illustrative clinical cases from his own large supply. The least modern part of the book is the surgical technic of mastoidectomy. He still recommends the use of the rongeur and curette for performing this operation and, from the extreme caution which he advises, one is inclined to feel that he is writing exclusively for the beginner.

The author is to be commended for his lack of belief in the value of vaccines and the various forms of light therapy. The Roentgen ray as a diagnostic measure is also properly defined.

In reading the book one feels that the author has drawn his conclusions from the field of actual experience. O. J. D.

TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

DIPHTHERIA TOXIN—Antitoxin Mixture, 0.1 L+ (New and Nonofficial Remedies, 1927, p. 341).—This product is also marketed in packages of 30 bulbs each containing 1 cc., representing ten immunizing treatments. Parke, Davis & Co., Detroit. (*Jour. A. M. A.*, October 1, 1927, p. 1151.)

BROMURAL.—2-monobromoisovalerylurea, obtained by the interaction of urca with bromisovaleryl bromide. Bromural is a nerve sedative which produces sleep in mild cases of insomnia without markedly affecting the circulation or respiration. It is claimed to be useful as a nerve sedative and for the purpose of inducing sleep in functional nervous disease. Bromural is not effective in cases of insomnia associated with pain, cough, angina pectoris or delirium. It is supplied in substance and in five grain tablets. E. Bihuber, Inc., New York. (*Jour. A. M. A.*, October 8, 1927, p. 1251.)

ERYSIPELAS STREPTOCOCCUS ANTITOXIN REFINED AND CONCENTRATED—P. D. & Co.—An erysipelas streptococcus antitoxin (New and Nonofficial Remedies, 1927, p. 337) prepared by immunizing horses with cultures of streptococcus isolated from erysipelas. The potency of the product is declared in "units," a unit representing the amount of antitoxin required to neutralize one skin test dose of toxin. It is marketed in packages of one piston syringe containing 500,000 units. Parke, Davis & Co., Detroit. (*Jour. A. M. A.*, October 15, 1927, p. 1335.)

MESUROL—Benzobis.—A basic bismuth salt of methoxyhydroxybenzoic acid containing from 54 to 57 per cent of bismuth. Mesurol is proposed as a means of obtaining the systemic effects of bismuth in the treatment of syphilis (see New and Nonofficial Remedies, 1927, p. 99, Bismuth Compounds). The drug is supplied in the form of emulsion mesurol, 20 per cent. for intramuscular administration. Winthrop Chemical Co., Inc., New York. (*Jour. A. M. A.*, October 22, 1927, p. 1427.)

PERUNA—Ancient and Modern.—The Eighteenth Amendment gave a great stimulus to one branch of the "patent medicine" industry—that devoted to the exploitation of alcoholics sold under the guise of home remedies. Originally containing about 27 per cent. of alcohol and very little else, the use of Peruna as a beverage in those parts of the country that were at that time nominally "dry" was notorious. Cases of acute and chronic alcoholism, and even, in some cases, of death from its use are matters of record. In 1905 the sale of Peruna to Indians was prohibited. In the same year the Bureau of Internal Revenue classed Peruna as an alcoholic compound advertised and sold as a medicine, but without the addition of drugs in sufficient quantity to change materially the character of the alcoholic liquor. Then the formula of Peruna was changed and sufficient senna added to satisfy the Internal Revenue Department that Peruna could no longer be used for beverage purposes. At that time the alcohol content was cut down from 27 per cent. to 20 per cent. When national prohibition was enacted, the alcohol content of Peruna was further reduced to 12 per cent. Now, within the past few months, another change has taken place. The manufacturers have added 6 per cent. alcohol and have taken out the senna! They have also taken out golden seal, which for some years has been one of the alleged ingredients; on the other hand they have added wild cherry, gentian and potassium iodide. The theory under which alcoholic "patent medicines" are supposed to be tolerated by the Internal Revenue Department is that they shall contain the minimal amount of alcohol possible. Just why the manufacturers of a nostrum with a history behind it such as Peruna should have been permitted to increase the alcohol content of their preparation 33 per cent. is another of those mysteries that only government bureaus can explain. (*Jour. A. M. A.*, October 22, 1927, p. 1444.)

Propaganda for Reform

WELDONA—A Piece of "Rheumatism Cure" Quackery.—In 1922 it was reported that an adult, with marked jaundice, was dying after continued use of Weldon tablets. At that time an analysis of Weldon had shown the presence of sodium salicylate. In 1924 an analysis showed the "Weldon Treatment" to consist of small, white tablets containing an emodin-bearing extract, and large, lavender-coated tablets containing sodium salicylate and an unidentified vegetable extractive. In 1925, the *Boston Medical and Surgical Journal* gave some case reports by Dr. Richard C. Cabot in which it was stated that a series of cases of acute yellow atrophy in patients having taken Weldon had come to his notice. In 1925, the Health Bureau of Rochester, New York, made some tests of Weldon and reported that unidentified alkaloids were found, together with sali-

cyates or salicylic acid. In 1926, the A. M. A. Chemical Laboratory found the lavender colored tablets to consist essentially of salicylic acid and acetylsalicylic acid, extractives of an emodinbearing drug with vegetable extractives, ground ginger and cinnamon. The medicinal part of the white tablets was found to consist of extract of cascara. Now in 1927, advertisements for Weldon are offered newspapers and to one such paper, the advertising agency handling the advertising gave the following as ingredients of Weldon: Neocinchophen, Extract of *Cimicifuga*, Fluid Extract of *Phytolacca*, Magnesium Carbonate Light and Powdered Extract of *Cascara Sagrada*. A commercial laboratory that analyzed Weldon in September, 1927, reported that it consisted largely of vegetable matter, with about 5½ per cent of mineral matter. The vegetable matter, was apparently, *phytolacca* and *cascara sagrada*, together with acetylsalicylic acid (aspirin) and salicylic acid. The laboratory did not satisfactorily prove the presence or absence of neocinchophen, but did report that tests for alkaloids showed none present. It seems evident from these several analyses that Weldon, like so many other "patent medicines," is a name rather than a thing—while the name has remained constant the composition has varied. (*Jour. A. M. A.*, October 1, 1927, p. 1167.)

ARC EPILEPSY REMEDY.—The medical profession has recently been widely circularized by the American Remedies Company of Rockford, Ill. The medical profession is asked to use the firm's "Reliable Remedy for Epilepsy" and is told by the firm that it does not "feel justified" in exposing its formula—that is, the medical profession is asked to prescribe a preparation of secret composition. The A. M. A. Chemical Laboratory analyzed the ARC Epilepsy Remedy and found it to consist of capsules, each containing about 1½ grains of phenobarbital (luminal) and a considerable amount of a laxative (emodin-bearing) drug and a small amount of dye. Is it possible that there are physicians who are so gullible and forgetful of their duty to their patients that they will give a dangerous drug in unknown dosage? A physician who uses or prescribes "ARC Epilepsy Remedy," giving so dangerous a drug as phenobarbital in unknown dosage, may lay himself open to a charge of doubtful practice. (*Jour. A. M. A.*, October 1, 1927, p. 1167.)

FEVER—Producing Methods in Treatment of General Paralysis.—Compilations have been made of the results obtained in cases of general paralysis treated with malaria. The treatment has also been applied to patients with syphilis of the central nervous system. A microscopic study of the brain following treatment by malaria leads to the conclusion on the part of the investigator that in some cases in the future the term "recovery" rather than "remission" will be justified. Relatively little has been reported during the past year concerning relapsing fever or sodoku as a therapeutic measure in neurosyphilis. It seems likely that, if infectious disease methods are to persist, a contest might arise between malaria and sodoku. Possibly the inoculation with an infectious disease will not continue to be necessary in the production of therapeutic fever. Reports have been published on the production of fever for treatment in general paralysis by the use of injections of foreign protein. The method has many advantages and the few cases on record give promise of good results. (*Jour. A. M. A.*, October 15, 1927, p. 1337.)

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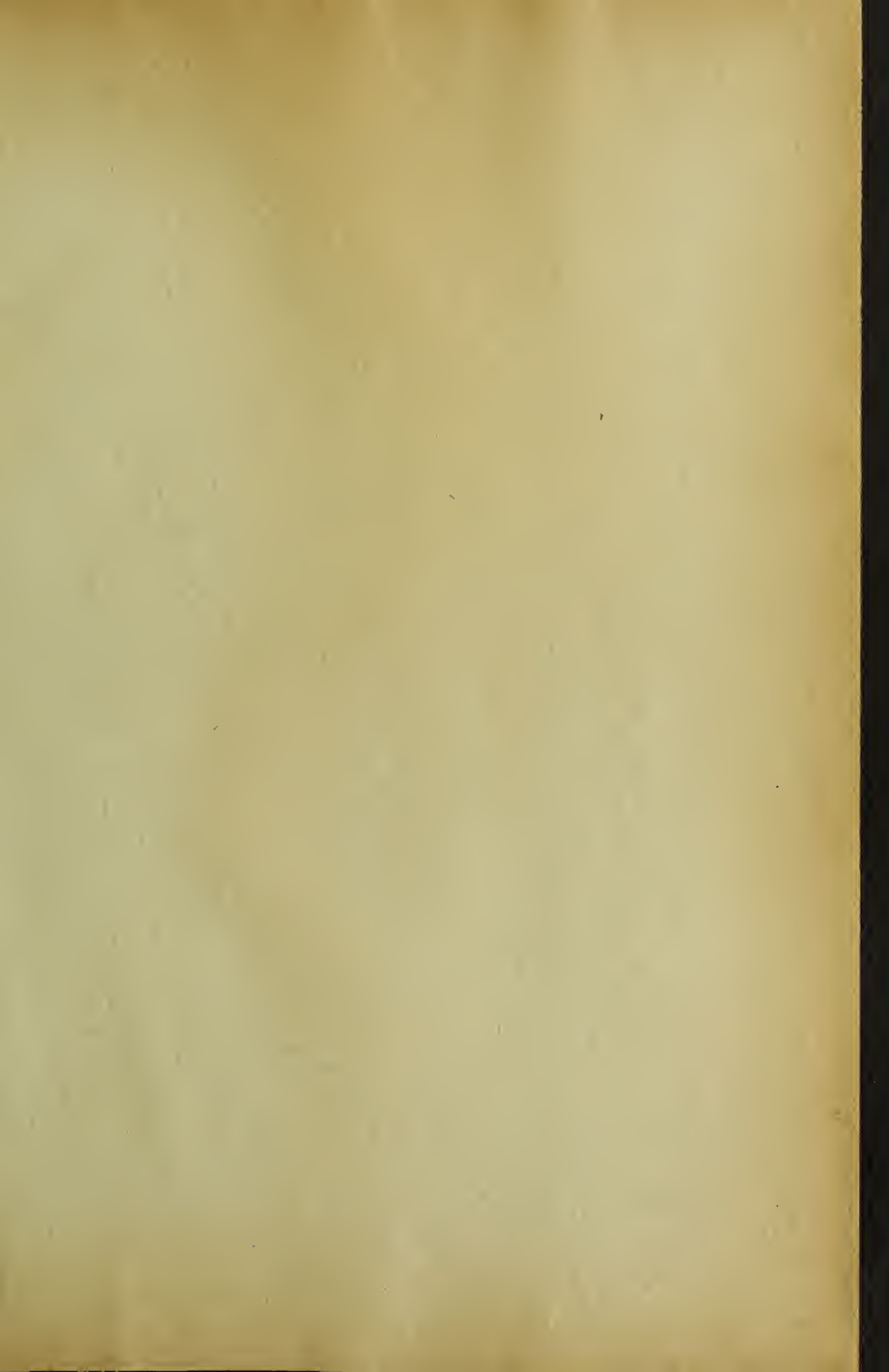
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